DISARMAMENT

A periodic review by the United Nations

Volume XIII, Number 1 1990

Sufficient Defence and Arms Reductions

Defensive Sufficiency and Military Reality
William A. Cockell and Gregory J. Weaver

Sufficient Defence and Arms Control
Nazir Kamal

Prospects for Conventional Arms Control in Europe
Hans Dieter Lemke

Conventional Parity and Conventional Stability
Janusz Prystrom

Mutual Inability to Launch Attacks, and
Arms Reductions in Europe
Max Schmidt and Wolfgang Schwarz

Can Non-Offensive Defence Improve Arms Reductions?
Haakan Wiberg

Space Technology – Security Related Developments
Paul B. Stares

Multilateral Confidence-building Measures and the Prevention of War
Derek Boothby, Paul Bracken,
Andrey V. Kozyrev, Andrew Mack,
Fernando Simas Magalhaes

United Nations

DISARMAMENT

A periodic review by the
United Nations

Volume XIII
Number 1
1990

Contents

Editorial Comment

Yasushi Akashi 1

Sufficient Defence and Arms Reductions

Defensive Sufficiency and Military Reality
William A. Cockell and Gregory J. Weaver 5

Sufficient Defence and Arms Control
Nazir Kamal 22

Prospects for Conventional Arms Control in Europe
Hans Dieter Lemke 39

Conventional Parity and Conventional Stability
Janusz Prystrom 58

Mutual Inability to Launch Attacks, and Arms Reductions in Europe
Max Schmidt and Wolfgang Schwarz 69

Can Non-Offensive Defence Improve Arms Reductions?
Haakan Wiberg 83

Space Technology—Security Related Developments
Paul B. Stares 101

Multilateral Confidence-building Measures and the Prevention of War

Selected papers presented at the
United Nations Regional Seminar for
the World Disarmament Campaign, held at
Kiev, Ukrainian SSR, 4-7 September 1989

Notes by the Chairman
Derek Boothby 119

Multilateral Nuclear Diplomacy
Paul Bracken 125

Towards a New Model of Security
Andrey V. Kozyrev 133

The Risks of Offence-Dominant Force
Structures and Strategies
Andrew Mack 144

The Impact of East-West Confidence-building
Measures on Global Security:
A View from the South
Fernando Simas Magalhaes 158

Documentation relating to Disarmament

Final Statement of the Palme Commission on
Disarmament and Security Issues 165

Government-Industry Conference against Chemical
Weapons: Summary Statement by the Chairman 187

Joint United States-Soviet Statement on
Chemical Weapons 194

READEX
FICHE

Final Declaration of the Third Review Conference
of the Parties to the Treaty on the
Prohibition of the Emplacement of Nuclear
Weapons and Other Weapons of Mass Destruction
on the Sea-Bed and the Ocean Floor
and in the Subsoil Thereof 196

Recent Books and Articles 205

Chronicle of Disarmament Activities 235

Disarmament is published periodically by the Department for Disarmament Affairs, at United Nations Headquarters in New York. It is intended to serve as a source of information and a forum for ideas concerning the activities of the United Nations and the wider international community with regard to arms limitation and disarmament issues. The periodical is also printed in Arabic, Chinese, French, Russian and Spanish, and can be ordered by writing to the Sales Section, Room DC2-853, United Nations, New York, NY 10017.

Articles appearing in *Disarmament* may be reprinted without permission provided the credit line reads "Reprinted from *Disarmament*, a periodic review by the United Nations" and a tearsheet is sent to the Department for Disarmament Affairs, United Nations, New York, NY 10017.

The views expressed in articles contributed to this publication by authors outside the United Nations are their own and do not necessarily reflect those of the Secretariat.

UNITED NATIONS PUBLICATION
Sales No. E.90.IX.1

01500

ISBN 92-1-142151-9

Editorial Comment

Yasushi Akashi
Under-Secretary-General for
Disarmament Affairs

The past two or three years have seen a number of very positive developments in East-West relations. In recent months the pace has quickened and events are now moving very rapidly, with implications that are difficult to predict. These events, whether of an entirely internal nature, such as major adjustments in political or economic policy, or in relations between countries, such as relaxations in border controls in Berlin and elsewhere in Central Europe, also carry profound significance for arms limitation and disarmament.

The markedly improved political climate and changed circumstances are rightly receiving wide acclaim, but it is recognized that they are also creating new questions and challenges and sometimes new problems. In some cases, issues that have been dormant for many years have now been awakened; in others, entirely new conditions will demand new attitudes and approaches.

It would be an error to deduce from the attention at present being paid to Europe that nothing else of moment is occurring elsewhere in the world. On the contrary, much is happening and it is heartening to see the United Nations at work in so many important endeavours, from Afghanistan to Central America, and from Namibia to the Middle East.

But it is Europe that has been, and remains, the most heavily armed of all the continents. It is in Europe that for over 40 years the military might of the two major alliances has been deployed. It is in Europe that attitudes have often been so deeply entrenched—attitudes that now seem susceptible to the warmer winds of long-needed change.

Many of the articles in this issue are themselves indicators of new ideas and approaches. In the wake of the INF Treaty, the exploration of defensive strategies and the progress being made in the Vienna Negotiation on Conventional Armed Forces in Europe offer prospects of meaningful measures of disarmament and solid movement towards much improved international security at significantly lower levels of armaments.

For the world as a whole, the 1990s may well be years of unprecedented opportunity and constructive turmoil, but not without major risk. It is important that the United Nations play its part dynamically and to the full in order to maximize the benefits that are now increasingly visible and to minimize the effects of possible disruptions.

Sufficient Defence and Arms Reductions

Defensive Sufficiency and Military Reality
William A. Cockell and Gregory J. Weaver

Sufficient Defence and Arms Control
Nazir Kamal

Prospects for Conventional Arms Control in Europe
Hans Dieter Lemke

Conventional Parity and Conventional Stability
Janusz Prystrom

Mutual Inability to Launch Attacks, and Arms Reductions in Europe
Max Schmidt and Wolfgang Schwarz

Can Non-Offensive Defence Improve Arms Reductions?
Haakan Wiberg

Defensive Sufficiency and Military Reality

William A. Cockell
and Gregory J. Weaver

As the super-Powers and their allies seek conventional arms control formulas which will provide for adequate security and stability, defensive strategies acquire increasing prominence as the model to which many believe both sides should subscribe. Defensive strategies, it is argued, provide stability at lower levels of armament and help build confidence that military force will not be used in time of crisis.

Defence Strategies and the European Alliances

Defensive strategies are, of course, nothing new. The declaratory strategy of the North Atlantic Treaty Organization (NATO) has been defensive since the Organization's founding. The Alliance's politico-military doctrine, force structure, planning, and training have been strongly defensive in their orientation—to the point, on occasion, of eschewing even legitimately defensive plans when such plans posed a risk of being misconstrued as offensive in character. Indeed, the Alliance's force structure has never reached the levels which NATO political and military authorities felt necessary to provide a reliable conventional defence against the much larger forces of the Warsaw Treaty Organization

Rear Admiral William A. Cockell, former Special Assistant to the President for National Security Affairs and Senior Director for Defense Policy, is Corporate Vice President of Science Applications International Corporation (SAIC).

Gregory J. Weaver, former Legislative Assistant on Defense Policy for Senator Carl M. Levin, is a Senior Analyst at SAIC.

(WTO) facing them. Thus for NATO forces, "defensive sufficiency" (to borrow the Soviet term) has always represented a ceiling on the Alliance's military capability—a goal perennially sought, never achieved, but not to be exceeded in any event.[1]

For the Soviet Union and its allies, however, the situation has been quite different. Their announced shift to a defensive military doctrine marked a major departure from the offensively oriented approach which has characterized their doctrine during most of the post-war period. This offensive orientation has been graphically manifested in the WTO's force structure, with its heavy emphasis on the capability to seize and hold an opponent's territory; and in its doctrinal emphasis on pre-emption and surprise, rapid movement, deep penetration, and massive, mobile fire-power to destroy enemy forces early and decisively on their own territory.

Thus for the Soviet Union a military doctrine founded on the concept of "defensive sufficiency" represents a new direction, with potentially profound ramifications for all areas of Soviet military endeavour. Unlike NATO, the Soviet Union and its allies start from a set of military capabilities substantially in excess of that required for "defensive sufficiency"—a point with which they now appear to agree. Where defensive requirements have represented a ceiling for NATO, they now represent a floor for the WTO, to which its force levels must descend if a reasonable balance with NATO's capabilities is to be reached. In this context, the primary task for conventional arms control over the next several years will be to manage the reduction of WTO capabilities to a level of genuinely defensive sufficiency relative to the smaller, defensively oriented NATO force levels, adjusting NATO forces as necessary to ensure a genuine balance of capabilities.

What Is "Defensive Sufficiency" in Soviet Terms?

For these reasons, the ongoing efforts of the Soviet political and military leadership to breathe substance into the concept of defensive sufficiency are of keen interest to those who see in evolving Soviet attitudes toward military power the possibility of a new era of stability and substantially reduced armaments in the centre of Europe.

Thus far, however, "defensive sufficiency" has been more of a slogan than a guide to action—a phrase suggesting what may be an important change in Soviet outlook, but lacking the detailed elaboration which would allow both Soviet planners and non-Soviet observers to understand the specific military capabilities which the Soviet leadership believe are required for its realization. In public forums, Soviet Defence Minister Yazov has been the concept's chief elaborator, describing "defensive sufficiency" variously as "non-offensive defence", "reasonable sufficiency", and as the stepping-stone to "a new model of security".[2] In Yazov's discussions, the term is sometimes used interchangeably with "dependable defence".[3] In a more recent elaboration, General Yazov seemed to read into the concept a somewhat higher level of military requirement than in previous discussions, suggesting that the concept of "defensive sufficiency" is dynamic and may be the subject of continuing debate within the Soviet hierarchy. After acknowledging the importance of arms control in today's environment, Yazov pointedly noted that the Soviet leadership, none the less, "has no right to forget 1941", or to allow a repetition of that year's events. "All of this requires", he concluded, "that we have *not only a sufficient but an unconditionally dependable defence* . . ."[4] [Emphasis added.]

At the same time Yazov chose to contrast the purportedly defensive character of the new Warsaw Treaty doctrine with that of NATO, which he criticized for "preserving, as before, adherence to a policy of force".[5] This inappropriate caricature suggests that *glasnost* has its limits when it comes to Soviet discussion of the two alliances' military doctrines. While this raises no insuperable obstacles to pursuit of the conventional arms control goals which both sides claim to seek, it does raise some question about Soviet sincerity and injects unnecessary friction into what are otherwise improving alliance-to-alliance relationships.

In summary, it is clear that what the Soviet Union calls the "social-political" side of Soviet military doctrine is in a process of change. That portion, the province of the country's highest political authorities, sets the broad strategic context for the military-technical portion of the doctrine, which is developed by the senior military authorities and defines in detail how the Soviet armed forces will be organized, trained, equipped and used in war. What the Soviet officials have exposed to us publicly so far has been mainly the social-political side of military doctrine. As a result, the discussions of defensive sufficiency and its variant formulations have told us relatively little about how Soviet military capabilities will, in fact, evolve. There are indications that the Soviet officials themselves are having difficulty infusing specific technical content into the rhetoric that has been used to characterize the new Soviet military doctrine, and are encountering problems in defining "sufficiency" in ways that provide a clear guide to the military officers who must translate the social-political doctrine into its military-technical derivative. At the same time, the general statements about prospective unilateral force reductions made by Soviet leaders—most prominently General Secretary Gorbachev in his December 1988 speech at the United Nations—add little to our understanding of Soviet intentions in the absence of much more specific detail concerning equipment to be retired, proposed force realignments, military deployment areas, and the planned rate of modernization of Soviet conventional forces. Western observers have already encountered difficulty in matching Soviet promises with the force reductions and realignments visible on the ground.[6]

Details of the military-technical doctrine are thus essential if we are to understand where the Soviet Union is heading with its military force structure—which is still heavily offensive in capability. Indeed, it should be noted that a major offensive capability is not necessarily inconsistent with the particular type of defensive doctrine that the Soviet officials have discussed, which relies on a massive counteroffensive to drive enemy forces from Soviet and Warsaw Treaty territory following three to four weeks of strategic withdrawal. Thus even in an era of defensive sufficiency, the Soviet military can argue that it will continue to require substantial quantities of the types of forces that are typically associated with major offensive operations.[7] How much offensive capability is necessary to meet its demanding criterion of a "reasonable, sufficient, and unconditionally dependable defence" remains to be seen. This is the issue with which Soviet officials will have to come to grips as they elaborate the military-technical aspects of their defensive doctrine, and which the authorities of both the NATO and the Warsaw Treaty nations will have to ponder carefully, as they seek formulas which will provide for secure and stable arms control relationships between the two alliances.

The development of a genuinely defensive Soviet military-technical doctrine, if it comes to fruition, will be a lengthy process—as Soviet officials have indicated.[8] In the mean time, we can find many clues to Soviet thinking in the proposals the Soviet Union has made at the negotiations on conventional armed forces in Europe (CFE), and in its internal discussions concerning force structure and quality. The remainder of this article seeks to evaluate a selected few Soviet CFE positions in the light of their declared doctrinal shift to defensive sufficiency.

Defensive Sufficiency and Numerical Parity

It is impossible to say definitely whether Soviet positions in the CFE negotiations thus far have been based on detailed military-technical analysis or have been primarily driven by the social-political doctrine being espoused by the top military and Party leadership. One thing is certain, however: Soviet CFE positions represent a major shift away from past Soviet policy regarding the conventional military balance in Europe.

The most obvious element of this radical change is Soviet willingness to accept the principle of numerical parity (at levels slightly below current NATO levels) between Warsaw Treaty and NATO forces in terms of major conventional weapons systems. While the precedent of Soviet acceptance of highly asymmetrical reductions was established in the United States-USSR Treaty on the elimination of their intermediate- and shorter-range missiles (INF Treaty), nothing about that agreement was in fundamental conflict with previously established Soviet military doctrine (rather, it was fully consistent with Soviet efforts to reduce the likelihood of the use of nuclear weapons, especially those capable of striking the Soviet homeland, in a European war).

This is not true in the case of CFE. Soviet conventional military planning has always emphasized the necessity of favourable force ratios to guarantee the successful conduct of offensive operations, such operations being viewed as the primary means of achieving the military-political objective of destroying the enemy's armed forces on his own territory. Soviet doctrine has thus emphasized the need for numerical superiority over the USSR's potential opponents to ensure the proper correlation of forces in the event of war. Current

Soviet force structure and today's quantitative military balance in Europe reflect this emphasis to a high degree. Thus, Soviet acceptance of numerical parity in Europe seems to reflect a true change in the USSR's view of the necessity of quantitative superiority for achieving its objectives in the event of a war in Europe.

Such a change might well indicate that it no longer sees the necessity for conducting large-scale offensive operations to ensure Soviet security, and then again, it might not. Acceptance of numerical parity does not necessarily mean the Soviet military has rejected offensive action as the *sine qua non* of Soviet military operations. Rather, it could indicate a Soviet belief that factors other than numerical superiority will determine the success of both offensive and defensive military operations in the future, and that the Soviet military intends to focus its available (and potentially *perestroika*-constrained) resources on those determinants of the correlation of forces, rather than on numerical superiority.

Though this would be quite consistent with Soviet articulation of defensive sufficiency, the available evidence regarding this is ambiguous, and it is not clear to what degree the Soviet military would feel compelled to retain a very significant offensive capability under an essentially defensive doctrine. Soviet CFE positions provide some clue, however.

On the one hand, there is no doubt that the establishment of numerical parity at levels 10-15 per cent below NATO's current force size would make the conduct of a successful large-scale Warsaw Treaty attack on NATO more difficult, as it is traditionally conceived. The cuts in NATO forces are not deep enough to render a coherent NATO defence across the front impossible, while the cuts in Warsaw Treaty forces would make the achievement of significant ground-force numerical superiority along sections of that front far more difficult and risky than it is today.

On the other hand, there is evidence that the Soviet

Union and its allies have concluded that emerging conventional weapons technologies will change the nature of warfare on the battlefield of tomorrow in two operationally significant ways, and that they must take those changes into account in crafting a conventional arms control régime.

First, they see the combined increases in target acquisition, weapons range and accuracy, and destructive power of new conventional arms as permitting the concentration of fire-power against the enemy without the concentration of ground forces. Such a development would permit one to create a breakthrough in the enemy's defensive positions through the shock effect of massive "fire strikes", without the need to achieve ground-force ratios of 3-1 or greater, thus obviating the requirement for numerical superiority for successful offensive action. Secondly, they see the potential that these same types of weapons might be used by a defender to seize the initiative from the attacker by effectively striking the attacker's forces throughout his depth, thus blurring the distinction between offensive and defensive action. This potential was summed up by a Polish Army Colonel:

> "Now the defender, being able to reach the enemy at distant pre-battle positions, on arch routes, and in assembly areas, does not have to only wait for the blow, for the strike. He himself can make the decision about the beginning of the battle. The choice of time of the encounter has ceased to be an exclusive attribute of the attacker."[9]

The implication of this development could be that forces designed primarily for offensive action—as it is now conceived—will be ill-suited for use in future wars. Such forces could prove too vulnerable to attack by the emerging conventional weapons technologies, and insufficiently flexible for a future battlefield marked by rapid and recurring transitions between offensive and defensive operations. One team of analysts believes the Soviet Union concluded this in the early 1980s, and had started to act on that conclusion before the CFE process began:

> "What is certain is that a major restructuring of the Soviet armed forces was slated to occur even before Gorbachev's announcement of unilateral reductions; that the restructuring and its doctrinal origins predate Gorbachev by several years; that the restructuring rests on considerable military-scientific analysis of the impact of new conventional technologies and the consequent need for better balance between offense and defense; and that the latter military-technical appreciation of the need for greater balance between offense and defense provides the military a convenient cover for generally supporting the 'political measures' that are producing a non-threatening Soviet image."[10]

Thus it is possible that the Soviet military's acceptance of numerical parity between NATO and the WTO is indicative of a change in its perception of the nature of a future war in Europe rather than a fundamental change in how it views its military objectives in such a war.

There is yet a third possibility. Soviet plannners may have concluded that future changes in the nature of conventional war will render their traditional military objective of destroying their enemy's military forces on his own territory both unnecessary and unrelated to numerical superiority.

One thing is certain: Soviet acceptance of numerical parity in the CFE negotiations does not by itself constitute proof that the Soviet military has rejected the offensive as "the basic type of combat actions of troops".[11] Thus, Soviet adoption of a version of defensive sufficiency which actually rejects the need for substantial offensive capabilities may or may not be indicated by willingness to reduce Warsaw Treaty forces asymmetrically to numerical parity with those of NATO. Other Soviet CFE positions need to be examined for supporting clues.

Defensive Sufficiency and Specific Weapons Ceilings

The Soviet positions regarding ceilings on specific types of conventional weapons are generally very close to NATO's own proposals, but there are also some significant differences that may shed light on Soviet concerns relevant to the questions of what constitutes defensive sufficiency.

The two sides have agreed on ceilings of 20,000 tanks and 28,000 armoured troop carriers within the Atlantic-to-the-Urals zone, with only minor differences in definitions of these weapons types. These two weapons systems are the basic building-blocks of modern mechanized armies and constitute the primary mechanisms by which one seizes and holds territory. NATO properly views the WTO's current quantitative superiority in these two categories as reflecting both offensive capability and intent. Soviet officials' agreement to NATO's proposed levels would seem to indicate that they too view the WTO's numerical advantage as representing capabilities over and above their national security requirements.

Artillery, however, is a different story. NATO's proposed Atlantic-to-the-Urals limit of 16,500 artillery pieces of 100 mm or larger has been met by a Warsaw Treaty counter-proposal of 24,000 artillery pieces of 50 mm or larger. Thus, the WTO has proposed an artillery ceiling 50 per cent higher than NATO's proposal and has defined artillery more expansively.

The differences in definition may constitute the sole source of the differences in proposed ceilings. The Soviet Union may see no need for having more than 16,500 Warsaw Treaty artillery pieces larger than 100 mm, in which case this difference should be relatively easy to resolve and the implications for defensive sufficiency may be nil.

The definitional difference may not be the reason for the differences in proposed ceilings, however. The Soviet negotiators may want to have a higher artillery ceiling for reasons related, at least in part, to their view of what is doctrinally necessary. Their definition of "artillery" may be designed to bring NATO's inventory up to a level that would require some reduction to their proposed ceiling, while allowing them to fill out their entire proposed 24,000 artillery inventory with weapons of 100 mm or larger.

The data exchanged by the two sides in Vienna make clear that this is a real possibility. NATO's artillery data state that the WTO has 57,060 artillery pieces over 100 mm to NATO's 19,458, a figure far below the WTO's proposed ceiling of 24,000. The Warsaw Treaty data state that NATO has 43,400 artillery pieces over 50 mm to the WTO's 71,560.

What are the doctrinal implications of a Soviet desire for a higher ceiling that could permit the WTO a considerable numerical advantage in heavy artillery? The answer might be related to the Soviet view of the utility of concentrated fire-power as a potential substitute for numerical superiority in conducting offensive operations on a future battlefield. James Thomson of the RAND Corporation noted this possibility in reference to the unilateral reductions General Secretary Gorbachev announced at the United Nations in December 1988:

> "It is noteworthy that the Soviets have not indicated specific numbers of artillery pieces from Eastern Europe, as they have for tanks. Of course, several hundred artillery pieces are contained in the six tank divisions [to be withdrawn from Eastern Europe]. But beyond that implied reduction, they have said nothing equivalent to the designation of 5,300 tanks from Eastern Europe . . . *This absence of explicit mention of*

artillery in the East European reduction suggests the possibility that Soviet military doctrine would still feature a breakthrough strategy that relies on artillery fire to punch holes in NATO's defensive line, which would be exploited by motorized infantry, helicopters, and the remaining tanks."[12] [Emphasis added.]

There is evidence that Thomson was correct. In implementing the withdrawal of the 5,300 tanks promised in Gorbachev's speech to the United Nations, the Soviet Union is also restructuring its remaining tank and motorized rifle divisions in Eastern Europe. It is accomplishing this by reducing its tank strength while increasing its heavy artillery and motorized infantry strengths through the conversion of one tank regiment to a motorized infantry regiment in each division.[13] The Soviet Union points to this restructuring as further evidence of its transition to defensive sufficiency, terming the new force structure more "defensive" than its predecessor. NATO should clearly welcome the Soviet tank reductions. But the Alliance should also carefully consider the future offensive potential of "defensively" restructured Warsaw Treaty forces and, in particular, the role of heavy artillery in those forces, in a European balance marked by numerical parity. In sum, Soviet willingness to accept NATO's proposed artillery ceiling and definition should provide a potential test of the "defensiveness" of "defensive sufficiency".

A fourth category of specific weapons ceiling is of interest in assessing Soviet views of defensive sufficiency: tactical aircraft. The Soviet proposal seeks to place a ceiling of 1,500 on "attack" aircraft of the two sides in the Atlantic-to-the-Urals zone. NATO, in contrast, seeks a ceiling of 5,700 "permanently land-based, combat-capable" aircraft. While there are difficult problems of definition in each side's characterization of its proposed aircraft ceiling, the meaning of the basic definitional differences is clear, unlike the case of artillery.

Whether the Soviet military views NATO's modern ground-attack aircraft from an offensive or defensive perspective, it sees the same thing: an enemy capability that must be countered if it is to conduct successful operations (offensive or defensive). This is because tactical aircraft have the potential to perform for NATO the same mission that artillery could perform for the WTO in a European military balance marked by numerical parity, i.e., concentration of fire-power.

By seeking limits on "attack" aircraft while not limiting "defensive" interceptors, the Soviet military is attempting to counter a NATO capability that would pose genuine problems for it were it to adopt a sharply restrictive form of defensive sufficiency as doctrinal guidance. Viewed from a Soviet perspective, NATO aircraft could be used to punch holes in Warsaw Treaty defensive positions to clear the way for exploitation by NATO ground forces. The NATO negotiating position would do little to reduce NATO's multiple-role airpower and could cut the Soviet interceptor force significantly, thus reducing Soviet ability to defend against NATO air attack. The Soviet position is clearly consistent with defensive sufficiency. However, as in the case of numerical parity in general, "consistency" with defensive sufficiency does not mean "indicative" of it. If combined in an agreement with their position on artillery, the Soviet ceiling on "attack" aircraft could serve to reduce significantly NATO's capability to concentrate fire-power on a future battlefield while preserving Warsaw Treaty capability to do so.

Summary/Conclusion

This brief discussion of the nature of the Soviet concept of defensive sufficiency in the context of conventional arms reductions perhaps raises more questions than it answers. That is probably due to a number of factors.

First, there is the considerable ambiguity surrounding the meaning of defensive sufficiency itself when one seeks to translate the Soviet declaratory concept into some form of operational military reality. To put it one way, does defensive sufficiency constitute a true shift to an operationally defensive military doctrine designed so that one can prevent an attacker from achieving his military objectives by simply defending one's own territory against occupation? Or does it instead mean that, in the future, defensive operations at the outset of a war would be viewed as an essential preliminary step in a military doctrine still based upon the destruction of the opponent's armed forces through offensive operations subsequently carried forward into his territory? If the latter is the case, is the required military force structure actually distinguishable from that required to initiate offensive operations aimed, from the outset, at seizing and holding NATO territory? It may well be that this ambiguity exists in Soviet negotiating positions because this question has yet to be resolved between the Soviet civilian leadership (who could plausibly be advocating the first formulation) and the Soviet military leadership (who might arguably prefer the second as the one more compatible with military realities and General Yazov's emphasis on "not only a sufficient but an unconditionally dependable defence").[4]

Secondly, further ambiguity is derived from the nature of modern conventional military forces and operations themselves, that is, they are not necessarily in every case inherently offensive or defensive. This was demonstrated in the October 1973 war, when the Israelis found that Egyptian defensive anti-aircraft missiles became very offensive indeed when carried forward with attacking ground forces. In a broader context, it is worth noting that counter-attacks are an essential element of conducting a defence against a mechanized foe. Yet to conduct such operational counter-attacks in the context of a strategic defensive, one must possess forces capable of powerful, mobile offensive action.

Thus, while a conventional arms control régime can be crafted that significantly improves the stability of the military balance by creating numerical parity at levels sufficient for coherent defence, it may prove very difficult (if not impossible) to devise an agreement that eliminates the potential for offensive action altogether. Thus, it will probably always be possible to find some potential offensive aspect in Soviet CFE negotiating positions, as those positions are virtually bound to preserve some form of offensive capability. The trick is to assess first whether the Soviet position is consistent conceptually with defensive sufficiency, and then to assess as best one can from the available evidence whether it is in fact intended to further defensive sufficiency.

This process will have to be repeated again as the negotiations progress. It is particularly important that non-Soviet observers evaluate not just Soviet negotiating positions in the context of defensive sufficiency, but also the way the Soviet military intends to implement the letter of the agreement as well.

As the Soviet officials come to grips with the problems of defining the military-technical side of defensive sufficiency, we should gain essential insight into the roles which they believe offensive forces and operations will play in a defensively oriented doctrine. We will also gain insight into whether they intend to structure, train, deploy, and operate those forces in ways which will give the West confidence that they no longer possess a significant capability for initiating offensive operations against NATO. In this regard, the interplay between doctrine and conventional arms control negotiations will be extremely important for the maintenance of peace and security in Europe.

References

1. "Defensive sufficiency" is the term the Soviet Union uses to describe that portion of its military doctrine which is broadly strategic in character and defines the nature of, and Soviet goals in, a future war. The Soviet military terms this most fundamental part the "social-political" portion of military doctrine, as contrasted to the "military-technical" portion which is derived from it.

2. *Krasnaya Zvezda*, 20 June 1989.

3. *Ibid.*

4. *Krasnaya Zvezda, Pravda*, 22 September 1989. In another elaboration of defensive sufficiency, General Yazov has explained that it involves four key tenets: (*a*) that the Soviet Union will not initiate war; (*b*) that it will not be the first to use nuclear weapons; (*c*) that it has no territorial aspirations towards other nations; and (*d*) that it regards no State as its enemy (*Krasnaya Zvezda*, 20 June 1989). None of these formulas contain startling revelations, nor are they particularly new elements of Soviet declaratory policy.

5. *Ibid.*

6. "The Gorbachev unilateral reductions and the restructuring of Soviet/Warsaw Pact forces", prepared testimony of Phillip A. Karber and Wayne G. Arner before the Armed Services Committee of the United States House of Representatives, 13 September 1989.

7. In an interesting recent analysis of the German invasion of the USSR in 1941, a Soviet military historian has noted that at the outset of hostilities the opposing force ratios in the Soviet western theatre of operations were roughly balanced (except in the area of tanks, where the Soviet Union enjoyed a 2.7 to 1 advantage). These ratios notwithstanding, the Soviet forces suffered a crushing defeat in the war's opening days. Other factors played a part, of course, but, as General Yazov has noted, the events of 1941 continued to exert a strong influence on Soviet military views of what constitutes defensive sufficiency. See Major V. A. Semidetco, "Istoki Porazheniya v Belorussii" (Sources of defeat in Belorussia), in *Voenno-Istoricheskii Zhurnal* (Journal of Military History), No. 4, 1989, p. 30. In a related analysis, another Soviet historian recently noted that, at the outset of war, the numbers of first-echelon armed forces of Germany and the Soviet Union in-theatre were approximately equal, with the USSR having some superiority in tanks and aircraft. The Soviet forces were dispersed to provide a defence in depth, however, and the Germans were able to achieve local force ratios of 5 or 6 to 1 in key areas by concentrating forces—always the prerogative of the attacker. In addition, German forces had qualitative superiority in some major areas. The Soviet historian concludes, from these and other data, that qualitative shortfalls were more important than quantitative ones in causing Soviet failures in the initial period of the war. He then extrapolates this lesson to the present, concluding that, under existing conditions, the maintenance of forces which

are qualitatively superior is more important than the maintenance of those which have numerical advantages over an enemy—a major theme of current Soviet doctrinal discussions. See Col. A. S. Yakushevskii, "Osobennosti Podgotovki Vermakhta K. Napadeniyu Na SSSR" (Particulars of the Wehrmacht's preparation for the attack on the USSR), *Voenno-Istoricheskii Zhurnal* (Journal of Military History), No. 5, 1989, pp. 74-75).

8. See, e.g., Col. Gen. A. Demidov, "Doktrina Novaya—Problemy Starye?" (New doctrine, old problems?), *Kommunist Vooruzhennykh Sil* (*Communist of the Armed Forces*), August 1989, p. 24 ff.

9. Col. S. Koziej, "Anticipated directions for change in tactics of ground troops", *Polish Ground Forces Review*, 1 September 1986, p. 1.

10. Dennis Gormley, Stephan Kux, John S. Tritak and Notra Trulock, III, "The effects of conventional arms control on NATO and the Warsaw Pact", a study prepared for the Ministries of Defence and Foreign Affairs of Switzerland by Dennis M. Gormley Associates, January 1989, pp. 4-5.

11. A. A. Sidorenko, *The Offensive*, Moscow, 1970, p. 3.

12. James A. Thomson, Prepared Statement before the Defense Appropriations Subcommittee of the United States Senate Committee on Appropriations, 9 February 1989, pp. 4-5.

13. See "The Gorbachev unilateral reductions and the restructuring of Soviet/Warsaw Pact forces", prepared testimony of Phillip A. Karber and Wayne G. Arner before the Armed Services Committee of the United States House of Representatives, 13 September 1989, pp. 3-5, 8, 10, 12, 15 and 17.

Sufficient Defence and Arms Control

Nazir Kamal

Introduction

For the past few years the Soviet Union has been advocating the concept of defence sufficiency, which implies a self-defence capability supported by military doctrines and strategies that are non-offensive in nature. Defence sufficiency bears close resemblance to the idea of non-offensive defence, which is being proposed in the East-West context by a growing number of Western arms control advocates. Indeed, these advocates have helped to promote the core idea of defence sufficiency in Soviet politico-military thinking. Although the discussions and model-building exercises have been devoted mainly to the East-West problem, the concept itself is hardly Euro-centric. Outside Europe, however, there has been little research on this subject, though the situation is beginning to change.

Because of space limitations and the lack of broad-based research, this article will be tentative, selective and succinct in its treatment of the subject-matter. For convenience, the terms "non-offensive defence" and "sufficient defence" will be used interchangeably, where appropriate.

Concept of Sufficient Defence

"Sufficient defence" or "reasonable sufficiency" (also coined by the Soviet leadership) reflects the Kremlin's new political thinking on the fundamental issues of war and peace. This trend has been visibly under way ever since Mikhail

Nazir Kamal is a Senior Research Fellow at the Institute of Strategic Studies, Islamabad, Pakistan.

Gorbachev took the helm of affairs. The concept marks an important development, if not something of an emerging watershed, in official Soviet thinking on questions of national and international security.

President Gorbachev appears to be the driving force behind the Soviet support for defence sufficiency, which he has been advocating since the 27th Party Congress, in February 1986. On that occasion, he called for limitations on the military potential of States to levels of *reasonable sufficiency*, suggesting that this should be pursued on a reciprocal basis because the adversary's attitudes and actions would restrict the scope of unilateral measures.[1] By reasonable sufficiency, Gorbachev means that "states would not possess military forces and armaments above the level that is indispensable for an effective defense, and . . . that their military forces [would] have a structure that would provide all necessary means for repulsing potential aggression but at the same time would not permit them to be used for the unfolding of offensive missions".[2]

Gorbachev has advocated a build-down process in Europe, in which "balance would be achieved at each stage on the basis of reasonable sufficiency".[3] He has also discussed the concept with a group of American senators and scientists. To a question raised by Senator Cranston, Gorbachev stated that reasonable sufficiency implied a defensive military doctrine, parity and equal security, as well as "a change of the character of military activities, the pattern of the armed forces, their location, a mandatory reduction in armaments and the armed forces, and strict verification".[4]

In his article "Reality and safeguards for a secure world", Gorbachev clarified that defence sufficiency presupposed "that States' armed forces will be structured in such a way that they are adequate to repel possible aggression but not sufficient for engaging in aggresive action".[5]

Similarly, according to the Soviet Defence Minister

Dmitri Yazov, the principle of sufficiency proposed by the Warsaw Treaty Organization (WTO) envisages reducing the military potential on a mutual basis down to the level where neither side would have forces and means for offensive actions while at the same time ensuring its defence.[6] Yazov believes that while the existing military parity between the alliances is a decisive factor in preventing war, the whole business of maintaining parity through competitive arms buildup could prove dangerously counterproductive. The arms race not only increases the danger of war, but it can also bring it to the limits where even parity would cease to be a factor of military-strategic deterrence.

The idea of non-offensive defence—a close cousin, if not actually a precursor, of defence sufficiency—is not new. It was the subject of inconclusive negotiations aimed at banning weapons systems considered to be "most specifically offensive" or "most efficacious against national defence or most threatening to civilians",[7] held between the major European Powers in the 1930s. Non-offensive defence was also advocated soon after the Second World War in order to forestall the emerging East-West confrontation in Europe, but significant scholarly interest as well as public support for the idea began to gain momentum only in the 1980s.

A growing body of literature on non-offensive defence exists in Western Europe, particularly in the Federal Republic of Germany, though some pioneering work has also occurred in Denmark, where a specialized research centre was established in the early 1980s. On the whole, this literature is related specifically to the European situation, but the core idea is of universal interest, even if most models are not readily applicable elsewhere.[8]

Anders Boserup, a leading exponent, has defined the concept in its reciprocal context as "both sides having forces that are stronger in defense than those of the opponent when used in an attack" or as both parties having "ample forces for defense and, by implication, insufficient forces for attack''.[9] It is also argued that non-offensive defence could be achieved if the side with a strong offensive capability reduced its strength, thus improving the security of its opponent, and increased its defensive strength to the extent necessary to preserve its own security. Advocates maintain that, *inter alia*, a relationship of non-offensive defence between States would strengthen crisis stability by discouraging pre-emption. For similar reasons, it would reduce the risk of escalation. Moreover, if this relationship could be established at lower levels of armaments, military expenditures could be conveniently reduced.

Limits of Defence Sufficiency

Gorbachev's view that there are limits to sufficiency under present conditions of military competition appears to be less restrictive than Yazov's. According to Yazov, the limits of sufficiency are set not by the Soviet Union, but by the actions of the United States and NATO.[10] Thus, nuclear sufficiency is determined by the need to prevent an unpunished nuclear attack in any, even the most unfavourable, situation, while conventional sufficiency envisages a quantity and quality of armed forces and armaments which would be enough to reliably ensure collective defence of the socialist community. Curiously, Yazov emphasizes a capability for not simply halting any aggression against the alliance, but also "decisively" repulsing it. Marshal Akhromeyev's reported disclosure of current Soviet strategy also indicates clear limits.[11]

Gorbachev has however shown some initiative. In December 1988, he announced certain unilateral measures, notably a cut-back of armed forces by 500,000 men over a two-year period, despite the problems of readjusting demobilized personnel.[12] In a substantive sense, the announcement is of limited military significance for Europe, but the decision is symbolically important. The unilateral measures for Asia have a more substantive meaning. The 200,000 troops to be withdrawn from Asia represent a higher percentage reduction since Soviet troop deployments are much smaller there than in Europe. The proposed Soviet cut-back in Asia has reportedly prompted China to contemplate a further unilateral reduction of its armed forces after the considerable cut-backs already witnessed in recent years.[13]

The notion that defence sufficiency is narrowly circumscribed under conditions of military competition has been explicitly challenged by a Soviet analyst, Alexei Arbatov, who aptly observes that the adversary's military potential should not only be regarded as an objective reality for Soviet planning, but also as a process directly influenced by Soviet measures.[14] Arbatov discusses a variety of arms limitation and reduction measures, both nuclear and conventional, and changes in the defence production system which the Soviet Union could consider for unilateral implementation.

Whatever the potential for unilateral acts, it is clear that progress in arms control would greatly facilitate contemplated Soviet moves towards defence sufficiency. Marshal Akhromeyev has indicated that the success of the strategic arms reduction talks (START) and conventional arms negotiations in Vienna would enable the Soviet Union to achieve a 50 per cent reduction of its annual military expenditure by the mid-1990s,[15] compared to the unilateral 14 per cent cut announced last May, to be accomplished over a two-year period.

Defence Sufficiency and European Arms Control

Soviet advocacy of defence sufficiency is not purely rhetorical. A significant manifestation of this is the Soviet scheme for progressive conventional arms control in Europe. The scheme consists of several stages, including the removal of asymmetries in major weapons systems through proportionate reductions in order to restore parity at a substantially lower level of armaments. Beyond the elimination of imbalances, requiring much larger cuts by the Soviet Union itself, the scheme envisages a cut-back by 500,000 men on both sides and proposes further reductions of armed forces and armaments so that those on both sides "would be given a defensive character and their offensive nucleus would be dismantled".[16]

The Soviet approach envisages defence sufficiency as the ultimate objective of the Vienna negotiations that formally commenced in March 1989. The NATO approach remains confined to eliminating quantitative asymmetries in certain weapons categories rather than engaging in any reciprocal scheme which might involve substantial reductions of its armaments or armed forces. NATO has apparently given high priority to eliminating the capability for surprise attack or large-scale offensive operations.[17] This declared objective contains important elements of non-offensive defence. However, this is not fully reflected in the formula proposed for a conventional arms control agreement. The objective could be pursued through the confidence- and security-building (CSBM) process reinvigorated by the Stockholm Document of 1986, but only to a limited extent.

The Soviet proposal for first-stage reductions goes further than NATO's formula. A compromise would help to push progress towards defence sufficiency as the military doctrines and strategies of both sides begin to look superfluous. More attuned to defence sufficiency is the joint proposal by Albrecht von Muller and Andrzej Karkoszka, which seeks greater conventional stability by combining substantial reductions in offensive capabilities with limits on the spatial density of certain weapons systems.[18]

Progress towards defence sufficiency in Europe is a challenging task, which Gorbachev himself has acknowledged,[19] but it is one that could make a significant impact on East-West relations and the future of multilateral arms control. It may prove difficult to translate non-offensive defence into a full-blown reality, but this is hardly a reason for ignoring the idea or failing to explore the limits. Fortunately, European public opinion has become a major factor. Pressures favourable to the idea of defence sufficiency could arise, once the initial ground has been traversed at the Vienna forum.

Defence Sufficiency and Global Arms Control

An effective self-defence capability can take different forms, depending on the adversary's military capability and strategy. The challenges of rapid technological innovation in weaponry are compounded by the problem of determining the adversary's present and future intentions, which defence planners cannot presume to be benign unless his military capability and strategy are unambiguously non-offensive and there is assurance about future scenarios. Without arms control efforts, the problems would remain unmanageable. A secure structure would be virtually impossible to establish.

Outside Europe, defence sufficiency has to be translated into a milieu that could consist of a number of States whose perceptions of threat would have to be addressed on a multilateral basis. The challenges of establishing defence sufficiency on a region-wide basis are reflected in the complex criteria adopted by the Contadora group for reducing and realigning the military potentials of Central American States into a nexus of defensive relationships.[20]

Even in a bilateral context, the differences in size between States could be such that parity would not be a realistic principle. A method of proportionate limitation or reduction on the basis of a ratio provides a conceptual alternative, but it does not offer a simple solution. Security linkages, especially between contiguous regions, could add to the complexity. Thus, defence sufficiency may need to be pursued simultaneously at the bilateral, regional and global levels. There is scope for making independent progress at each level, but significant changes would depend on how well the different levels were interrelated, so that a multifaceted problem would not be approached in a one-dimensional way.

Conditions are evidently more favourable today than in the past for dealing not only with the problem of military confrontation in Europe, but also with the global capabilities of the super-Powers. As argued elsewhere,[21] the application of non-offensive defence to the global situation is no less important than the effort to reverse the cold war legacy in Europe.

The Soviet concept of comprehensive security contains elements that could extend the scope of defence sufficiency beyond the East-West context onto the wider global plane. The removal of external threats to a region is one aspect. The removal of regional threats to international security and the strengthening of intraregional security are other aspects. Agreements between the extraregional States, on the one hand, and between such States and those within the region, on the other, would have to be buttressed by a United Nations role so that there would be no "power vacuums". The United Nations could help provide an important hedge against any threat to international security, whether intra- or extra-regional in nature. Ensuring the security of vital oil supplies from the Gulf, where a United Nations naval presence could replace foreign military deployments, would be one such instance.

The utility of offensive capabilities could be reduced by fulfilling, even if incrementally, the collective security and arms limitation provisions of the Charter of the United Nations. Of late, the Soviet Union has become strongly supportive of implementing these provisions. For example, the reinvigorating of the Military Staff Committee has been suggested. However, the United States remains deeply reluctant to work through multilateral decision-making mechanisms. So far, it has supported cautious procedural measures that are reflected in the Declaration on the Prevention and Removal of Disputes and Situations Which May Threaten International Peace and Security and on the Role of the United Nations in This Field, adopted by the General Assembly as resolution 43/51 in December 1988. Although preventive diplomacy is undoubtedly important, the Declaration does not represent any significant progress in this area, nor can it substitute for progress towards the collective security system envisaged by the Charter.

For geographical reasons, there are steps the Soviet Union could take towards removing the threat of military intervention with respect to its Asian neighbours. Demilitarized zones along its border, monitored by the United Nations, could give credibility to its declared intentions of non-intervention. Both regional and international security could be greatly strengthened. Significantly, notions or perceptions of a historical Russian ambition (or drive) towards the Indian Ocean could be laid to rest. Naval deployments in the area by the United States, especially its offensive capabilities under Central Command, would look more intrusive. In exchange for a non-interventionist régime, the Soviet Union could seek security assurances against any foreign military presence in a neighbouring State.

The device of a demilitarized zone could also be extended to cover non-interference, but additional measures would appear necessary. Trade, etc., could be regulated through narrow corridors at designated transit points. However, monitoring non-interference (stopping infiltration by saboteurs, etc.) could be rendered difficult if the terrain, the length of the border and the local population density were unfavourable. If faced with insuperable difficulties, the objective could be limited to non-intervention. A demilitarized zone itself could provide some deterrent against non-interference.

Demilitarized zones need not be wide. With regard to non-intervention, they could serve purely symbolic purposes. With regard to non-interference, a wide zone is unnecessary. Indeed, a narrow belt would make monitoring easier. Such zones could also be applied selectively to areas of particular concern.

In the area of strategic nuclear weapons, the attainment of a non-offensive defence posture is circumscribed by the potential of the weapon for mass destruction and by the fact that should deterrence fail, defence would take the form of retaliation. A retaliatory force can also be used for offensive purposes. Until nuclear disarmament is achieved, the offensive aspects could be reduced through arms control agreements that would provide for not only significant reductions, but also restrictions on nuclear-force modernization. Proposals by non-offensive defence advocates for containing counterforce capabilities include a comprehensive nuclear-test-ban treaty and a freeze on the introduction of new strategic nuclear weapons.

Defence Sufficiency and Regional Arms Control

Non-offensive defence arrangements have existed in the Middle East since the Sinai disengagement agreement of 1975 and the Israeli-Egyptian Peace Treaty of 1979. A disengagement régime has also been in force in the Golan Heights since 1974. In South Asia, the Indo-Pakistani talks to end the five-year-old armed conflict in the Siachen Glacier include demilitarization as part of a possible solution. Central America is another region where the Contadora group's proposals envisage progress towards intraregional defence sufficiency, along with non-offensive defence and confidence-building measures to deal with extraregional threats. The wide-ranging régime includes limitations on offensive armaments, restrictions on foreign military activities and controls on the size of armed forces.

The significant improvements in Soviet-United States and East-West relations should help to focus more attention on regional arms control. The cold war, which shaped the third world's traditional stance, has virtually disappeared. Developing States have concentrated more on extraregional dimensions and not sufficiently on intraregional aspects, whose significance has been growing.

Non-intervention also needs to be addressed in the context of relations between regional States, especially where significant military imbalances or other problems exist which could give rise to intervention. The applicability of demilitarized zones needs to be explored. No less important is non-interference, which is a fairly widespread issue in the third world. Some of the difficulties mentioned earlier could make the latter task almost daunting. But this may not be uniformly the case.

Besides ensuring non-intervention, demilitarized zones could play a useful role in reducing the danger of surprise attack or making large-scale offensive operations more difficult to carry out. A major reason for official Western opposition to WTO proposals for a demilitarized zone in Central Europe has been concern about NATO's lack of geographical depth. Such differences in situation may not pose serious problems elsewhere. If there are other structural impediments, however, demilitarized zones could simply cover geographical points of strategic or tactical importance, to which access would be necessary to conduct offensive operations. Where feasible, such zones could be reinforced by creating special coterminous economic zones to foster interdependence.

Another approach could be to create force-limitation zones in order to reduce high concentrations of armaments and armed forces, or to remove specific weapons systems that may be considered particularly threatening. Such zones should be extensive enough that any offensive operation (more difficult to carry out meaningfully without prohibited weapons being reintroduced) would lose the element of surprise. A start could be made with measures that would make monitoring more convenient between countries where distrust is high. For example, military airfields near the border could be demilitarized wholly or partially to reduce the danger of a surprise aerial attack as well as to improve air defence. Photo-reconnaisance by satellite or aircraft would become easier, while on-site verification would be spatially limited. Clearly, specific models would have to be developed which would take account of a region's structural characteristics or the nature of a specific problem.

Demilitarized or force-limitation zones would require extensive verification provisions as well as outside assistance in the case of third world countries. Outside assistance itself may entail not only the supply of sophisticated monitoring instruments, but perhaps also their operation and maintenance, not to mention satellite surveillance services. Third-party participation would also seem necessary in order to deal expeditiously, impartially and authoritatively with allegations of non-compliance.

The United Nations could play a monitoring-*cum*-arbitral role. An impartial monitoring force would be easier to organize under its auspices. The United Nations involvement would also help to internationalize any established violation, thus creating an additional deterrent against non-compliance. The United Nations has acquired relevant experience both in the Sinai and the Golan Heights. The Sinai disengagement agreement has been successfully in force since 1975.[22]

There is, however, one function that the United Nations is currently incapable of performing on its own. The decade-old French proposal for an international satellite monitoring agency seems to have receded into the background. Any important agreement envisaging a verification role for the United Nations would strengthen the case for reactivating the French proposal. Alternatively, satellite surveillance services could be obtained from the super-Powers. Indeed, they could also be requested to loan technical personnel and assist in facilitating technology transfers in order to improve the national technical means of parties to an agreement.

The offensive capabilities of regional States could also be contained by supplier restraints on arms and defence-related technology transfers. Competitiveness among suppliers has accentuated the phenomenon of technical assistance. Licensed production has also become more marked. Political conditions are distinctly better today than in the 1970s when the super-Powers engaged in abortive talks to control arms transfers. But significant reciprocal restraints would be much easier to achieve in the context of an arms control process between regional adversaries which would involve limitations on their offensive capabilities. Indeed, reciprocal as well as multilateral restraints among suppliers would become indispensable in such cases since third world countries depend on outside suppliers for a variety of major weapons.

Unilateral measures are also conceivable in cases where a regional State enjoys distinct advantages in size *vis-à-vis* its neighbour or possesses armed forces that have grown disproportionately large as far as its defence requirements are concerned. Changes in priorities and perceptions could open up avenues for unilateral measures, as demonstrated to some extent by the Soviet Union. In the third world, China and Indonesia have in recent years reduced their armed forces by unilateral acts. China's reductions have been almost phenomenal.

In the contemporary world, the fundamental interests of humanity, including ecological protection, could also be safeguarded to some extent by improved laws of armed conflict. The rapid proliferation of missile technology has already added a new dimension to the offensive capabilities of States, especially in the tense areas of the Middle East and South Asia. Until such capabilities are brought under control, at least their effects, in the event of use, could be lessened. For example, a start could be made by concluding bilateral or multilateral non-attack agreements pertaining to potentially dangerous and designated nuclear, chemical and biological facilities, both military and civilian.

CSBMs could play a supplementary role in advancing the idea of non-offensive defence. Or they could simply provide a useful stop-gap arrangement. CSBMs could help to reduce the danger of surprise attack, the accidental outbreak of armed conflict and the use of offensive capabilities for purposes of political intimidation. An incidental effect would be an increase in military transparency, since verification procedures would normally require intrusive inspection in the zone of application. CSBMs would become more important if substantive arms control measures were considered politically premature or technical complexities existed. Europe's decade-old experience with CSBMs should prove very valuable for the concept's application in third world regions, especially where the potential for armed conflict exists. CSBMs would seem to be acutely relevant in South Asia, where intraregional naval developments that are causing some growing concern may also have to be addressed.

The existence of territorial disputes, particularly of a significant geopolitical nature, can greatly limit the prospects of defence sufficiency in certain regions. An important region in this respect is South Asia, where India has major territorial disputes with both Pakistan and China. This problem underscores the importance of more efficient mechanisms for the peaceful settlement of disputes. Nevertheless, partial non-offensive defence measures could give credibility to declarations of non-use of force in the settlement of territorial disputes or to claims of non-aggressive intent in general.

Conclusions

Conceptually, defence sufficiency or non-offensive defence does not necessarily envisage disarmament or even significant arms control. But the core idea can be pursued more effectively at lower levels of armaments. Structurally, the pursuit of defence sufficiency as a full-fledged concept would be less problematic in Europe. The changing situation in Europe, particularly the public opinion factor, could enhance its prospects. In other regions, if the task proves unwieldy, the concept could be pursued through partial measures to reduce threat perceptions.

Finally, the concept of defence sufficiency in Europe is still evolving, in both the Soviet Union and Western Europe. Outside Europe, much pioneering work has to be done before it can be systematically discussed and models developed for possible implementation.

References

1. Raymond Garthoff, "New thinking a must for all", *International Affairs* (Moscow), July 1988, p. 72. Reportedly, defence sufficiency was adopted after discussions spread over two years in the Politburo's Defence Council. See Willian Odom's "Soviet military doctrine", *Foreign Affairs* (New York), Winter 1988-89, p. 130.
2. Albrecht von Muller and Andrzej Karkoszka, "An East-West negotiating proposal", *Bulletin of the Atomic Scientists*, September 1988, p. 41.
3. Press Bulletin No. 81, USSR Embassy, Islamabad, 12 April 1987.
4. *Ibid.*
5. A/42/574, part I.
6. Dmitri Yazov, "WTO military doctrine—for defence of peace and socialism", *International Affairs* (Moscow), October 1987, p. 6.
7. Robert Neild, "Defining 'offensive': a failure and a success", *Bulletin of the Atomic Scientists*, September 1988, p. 18.
8. See the string of articles in *Bulletin of the Atomic Scientists*, September 1988. A particularly well-known unilateral proposal is called the

"spider web" defence, whose objectives are to halt and wear down a WTO invasion in Central Europe. Apparently, "spider web" has found some support in the West German Social Democratic Party and even within certain NATO circles. Reciprocally, there is the Jaruzelski plan by the Polish leader, which promotes defence sufficiency. Though more ambitious, the plan is not as specific as another interesting proposal made jointly by Albrecht von Muller and Andrzej Karkoszka (scholars from the Federal Republic of Germany and Poland, respectively). Their proposal envisages a restructured military balance in Europe that is significantly lower than current levels of armaments.

9. Anders Boserup, "A way to undermine hostility", *Bulletin of the Atomic Scientists*, September 1988, p. 16.

10. Dmitri Yazov, *op. cit.*, p. 4.

11. William Odom, "Soviet Military Doctrine", *Foreign Affairs*, Winter 1988-89, p. 130. According to the author, who served as Director of the National Security Council during 1985-88, Marshal Sergei Akhromeyev, Gorbachev's military adviser and former Armed Forces Chief of Staff, explained that under its current military doctrine the Soviet Union would adopt a defensive stance initially, but if negotiations to quickly end the conflict failed, it would launch a counter-offensive. Akhromeyev's explanation however seems more defensive in nature than Yazov's. Moreover, it does not apparently differ much from NATO's "follow-on forces attack" (FOFA) and "airland battle" strategies.

12. Unilateral measures include a withdrawal of 10,000 tanks, 8,500 artillery systems and 800 combat aircraft from Eastern Europe and European USSR.

13. Gerald Segal, "What the Soviet military cuts mean to Asia", *International Herald Tribune*, February 7, 1989.

14. Alexei Arbatov, "How much defence is sufficient?", *International Affairs* (Moscow), April 1989, p. 35. Arbatov is Head at the Institute of World Economic and International Relations of the USSR Academy of Sciences in Moscow.

15. Reuter News, "US-Soviet accord on nuke tests in sight", *The Muslim* (English news daily from Islamabad), 10 August 1989, p. 5.

16. Soviet Foreign Minister Shevardnadze's statement at the United Nations third special session on disarmament. *Official Records of the General Assembly, Fifteenth Special Session*, twelfth meeting.

17. *Survey of Current Affairs* (Foreign Office, London), vol. 1, No. 3, (1988), p. 97.

18. Albrecht von Muller, *loc. cit.*

19. Press Bulletin, USSR Embassy, Islamabad, 31 March 1988. Gorbachev said "there are lots of problems in this respect, and they are extremely complex", but that it was important to begin discussing such matters.

20. See Jozef Goldblat, "Multilateral arms control efforts", part VI,

"Arms control in Central America", in SIPRI, *World Armaments and Disarmament. SIPRI Yearbook 1987* (Oxford, Oxford University Press, 1987), pp. 401-404.

21. Paul Rogers, "The nuclear connection", *Bulletin of the Atomic Scientists*, September 1988, p. 20.

22. David Barton, "The Sinai peacekeeping experience a verification paradigm for Europe"; part II, "The Sinai peacekeeping experience", *SIPRI Yearbook 1985*, pp. 541-551. Verification is based on a three-tier system. Independent monitoring by Israel and Egypt is reinforced by the United States role as a third party and final authority. Since 1979 the United States has been monitoring two thirds of Sinai—an area of about 40,000 square kilometres. The United Nations also monitored part of the Sinai disengagement zone until the 1979 Peace Treaty, when the United States took over the responsibility. The United Nations nevertheless maintains a token supervisory presence.

Prospects for Conventional Arms Control in Europe

Hans Dieter Lemke

Introduction

In March 1989, the 23 member States of the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization (WTO) commenced negotiations in Vienna on conventional forces in Europe (CFE), which, due to the multiplicity of the interests of individual countries and the complexity of the subject, may claim to be the most ambitious international arms control project in history. From a European point of view the talks are of the utmost importance. If successful, they will result within a few years' time in substantial improvement in the continent's military security system. In the longer term, CFE may even serve as a useful model for resolving military tension in other parts of the world.

While the formal objective of CFE, according to its mandate, "shall be to strengthen stability and security in Europe through the establishment of a stable and secure balance of conventional armed forces, which include conventional armaments and equipment, at lower levels . . . and the elimination, as a matter of priority, of the capability for launching surprise attack and for initiating large-scale offensive action",[1] the current first phase of the negotiations will not adequately meet requirements for stability. This becomes apparent if we determine what stability really is, and look

Hans Dieter Lemke is Senior Research Associate at the Research Institute for International Politics and Security of the Foundation for Science and Politics, Munich-Ebenhausen, Federal Republic of Germany.

at the amount of equipment that will remain after agreed arms reductions have been carried out.

In general terms, stability is relative to the degree of improbability of war. For closer analysis, a distinction should be made between two relevant characteristics of stability.

a Political stability prevails if, due to the absence of political antagonism, individual States or alliances do not have any incentive for attaining political goals by military force. This is apparently the case, for example, in the relationship between the United States and Canada.

b Military stability may exist if opposing States or alliances do not see any prospects for using military power because the risks involved are unacceptable. In other words, military stability prevails if both opponents are sure that neither of them is in a reasonable position to successfully attack the other side, and that this situation cannot change unexpectedly. This presupposes that the opponents will act rationally. However, this cannot be relied upon in crises, and therefore a state of reliable military stability will not be attained as long as political opponents have at their disposal the means for waging war. Consequently, and as a matter of priority, existing offensive capabilities must be eliminated or substantially reduced.

This will not occur to a sufficient extent in the current, first phase of CFE. A minimum of 20,000 battle tanks, 28,000 infantry fighting vehicles, 16,500 artillery pieces, 5,700 combat aircraft, and 1,900 combat helicopters will be left with each alliance in the zone from the Atlantic to the Urals, if the Western proposals are accepted by all parties. Obviously, numerical parities slightly below actual NATO levels would put an end to the traditional conventional superiority of the WTO and bring about more security for the West. However, while remaining potentials may be regarded as sufficient for defence by both sides, the forces left will be equally capable of initiating and perhaps winning a war of aggression.

New sources of instability should not be accepted by any of the negotiating parties. Interestingly enough, both sides' opening proposals in March 1989 reflected some agreement in principle that CFE should be continued beyond the current phase. If subsequent talks are really going to take place, the sides should establish a qualitative objective for the entire project, rather than simply negotiate further step-by-step numerical reductions on a percentage basis. This approach would reveal how far they are prepared to advance in the arms control process, and possibly help to overcome remaining misgivings about the real politico-military intentions of the respective opponent. A more precise formula than "to strengthen stability and security . . ." will therefore be needed. Possibly, "sufficient defence" could be a useful label for describing the best possible outcome of an extended CFE process. But besides a vague idea that sufficient defence is related to a state of military security at low levels of armaments, there is no common perception of the substantial content of this concept. This becomes apparent when one compares its role in Eastern and Western military thinking.

Sufficient Defence: A Problem of Definition

Aspects of the Current Debate

Ever since Mikhail Gorbachev, in his political report to the 27th Party Congress in February 1986, first formally declared that the USSR stood for limiting military potentials to reasonable sufficiency, a lively debate on this term has been observed in the WTO, and particularly in the Soviet Union. While the former General Secretary failed to explain the exact meaning of reasonable sufficiency in the context of a defensive Soviet military doctrine, the discussions of the last two years have revealed different perceptions by different authors of the related crucial questions: How much is enough for what purpose? Or, to put it more precisely: What numbers and characteristics must the forces have to be considered sufficient for the implementation of what kind of defence concept?

With regard to numbers, Eastern experts' views range from below parity to more than parity with NATO forces at, however, generally lower levels than currently given. Proposals are not usually made in absolute numbers. With regard to qualitative aspects, several authors—mostly civilian—favour the concept of "defensive defence" or "non-offensive defence", which would be restricted to WTO territory. Other writers, mostly from the military, appear to be less willing to renounce the capabilities needed to support major offensive or counter-offensive options. This reflects the traditional debate on the merits of mobile versus more static defence postures and, in particular, on the role of operational and tactical counter-offensive action in strategic defence.

Western authors dealing explicitly with sufficient defence restrict themselves predominantly to the analysis of the Eastern debate. This does not mean that the subject is anathema in Western strategic thinking. NATO has always been a strictly defensive alliance, challenged to respond to the WTO's superiority in Europe by relying on the minimum military power required for preventing war and granting security to its member States. In substance and intent, this is nothing other than a principle of sufficient defence. So it can be said that the new subject of debate in the WTO is a familiar problem for NATO.

However, there is no agreement on the numbers and characteristics of military forces needed for implementing NATO security policy in the West either. General dissent between official alliance positions and mostly unofficial experts has been reflected in an alliance-wide debate on "alternative" modes of defence. Moreover, dissent exists between different proponents of "alternative defence" concepts. This is revealed by the various notions brought into the debate, i.a., "social", "defensive", "non-offensive", or "non-provocative" defence, and "structural incapacity for attack". As with the discussion in the Soviet Union, the role of counter-offensive action in a defensive strategy has been at the core of the Western debate.

The term "sufficient defence" is not found in the mandate of the Vienna CFE talks, and the formal aim set for the negotiations is at best a careful approximation of what sufficiency for defence may mean. Besides, different views are revealed by the opening proposals of the two sides. On the one hand, WTO countries call for deep cuts and keeping forces and systems necessary solely for defence and insufficient to launch surprise attack or conduct offensive operations. On the other, NATO countries propose establishing a situation in which surprise attack and large-scale offensive action are no longer credible options and, i.a., suggest "sufficiency" rules for limits on weapons which may be held by individual countries within the zone of the talks.

Clearly enough, "sufficient defence" is a dynamic notion. Different conceptions of the nature, goals, and appropriate modes of defence will give rise to different interpretations. Furthermore, the military strength and probable options of a potential aggressor are decisive factors. Last but not least, the perception of how much may be sufficient under specific conditions is judged in a subjective rather than impartial way. The same is true for "reasonable sufficiency", as used by several Eastern authors. A more precise notion should be introduced. Wojciech Multan's formula "minimum defence sufficiency"[2] may point in the right direction because it emphasizes the effort to achieve the lowest possible levels of armament.

Despite remaining deficiencies, minimum sufficient defence may be the best objective to achieve in future stages of the CFE talks. However, if all parties are to adopt the concept of minimum sufficiency, agreement must be achieved on (*a*) the content and (*b*) the means of translating minimum sufficient defence into force strengths and structures.

This sets the stage for the considerations that follow, which are intended to provide possible answers to these problems. In particular, four questions will have to be dealt with: (*a*) What indeed is defence? (*b*) What [illegible] be an acceptable definition of "minimum sufficient defe[illegible]"? (*c*) Can minimum sufficient defence be achieved through arms reductions? and, if not, (*d*) What measures are necessary for realizing minimum sufficient defence postures?

On the Nature and Modes of Defence

Both NATO and the WTO claim to have always relied on defence. If the aim of defence is understood to be the preservation of the existing situation, then the fact is striking that in the arsenals of both sides mechanized combat ground forces and large numbers of attack aircraft and far-ranging missile and artillery forces suited to seizing ground or hitting targets on the opponent's territory predominate. This is the intrinsic problem in Europe, which has always been of concern to both alliances. For the West, the vast superiority of the WTO's conventional potentials clearly exceeds defence requirements, and their high state of readiness and peacetime concentration close to NATO's Eastern borders are perceived as particularly alarming. While NATO's defence planning never reflected any intention to seize WTO territory, the WTO's traditional offensive military-technical strategy aimed at victory by destroying the Western alliance's military potentials on NATO soil, thereby casting some doubt on the allegedly defensive nature of Eastern military doctrine. Obviously, the definition of defence can be disputed, but if both sides wish to achieve a future state of mutual security, there is an urgent need to synchronize clearly defensive intentions and operational capabilities. This point was made by Foreign Minister Hans-Dietrich Genscher of the Federal Republic of Germany in his address to an East-West seminar on military doctrines, held in June 1989 at the Foundation for Science and Politics in Ebenhausen, the Federal Republic. On that occasion he made the following claim:

> "The defensive character of an alliance does not solely result from a political-declaratory negation of military aggression. Confirmation of non-aggression and pledges of non-use alone offer no adequate assurance of security and stability. The defensive character of an alliance must be underlined by the defensive orientation of its military-strategic concepts. It must affect the operational, the strategic and the military-technical levels of the armed forces. . . .There must be no discrepancy between defence policy rhetoric on the one hand, and actual force structures and strategic employment concepts on the other hand."[3]

But first of all, agreement must be achieved on the fundamentals of defence. What really is defence, as opposed to offence? Carl von Clausewitz, the great German nineteenth century military thinker, was quite clear on the subject:

> "What is the nature of defence? To repulse a thrust. And what is its criterion? To await this thrust. Consequently, this criterion turns any action into a defensive one, and by this criterion alone defence may be separated from offence in war."[4]

There is probably no better description of the difference between defence and offence, which, for Clausewitz, were but two different forms of combat with the common goal of gaining victory by annihilating the invading enemy force. His definition should be accepted by all parties engaged in the CFE talks as the first and fundamental principle of truly defensive doctrines and strategies. Likewise it can also be adopted elsewhere in the world. Any resort to initial military action beyond political borders, including preemptive or preventive measures in acute states of tension, would be ruled out as deliberate options. But the problem with doctrines and strategies is that they may be of only declaratory value or may be subject to rapid change as long as military means are available for waging war. Also, the principle of awaiting the enemy's thrust does not by itself limit the size and quality of potentials required, and does not therefore exclude any of the possible ways of conducting defence on the operational and tactical levels.

However, if stability and security are at stake, the operational modes of defence adopted by opponents are more important than their military doctrines. The modes may be threatening or not, and they may contribute to stability or give rise to perceptions of instability. Again one can learn from Clausewitz, who distinguished between four options of the defender:[5]

a To attack the enemy immediately at the outset of his penetration into the theatre of war;

b To occupy positions close to the border, and to attack the invader upon his arrival in front of those positions;

c To conduct genuine defence operations from close-to-border positions, including counter-attack actions;

d To withdraw from the border and to initiate final resistance in the central parts of the country.

For Clausewitz, defence was, other things being equal, the stronger form of combat. Consequently, he favoured option (*d*) in which the aggressor would be subject to attrition before encountering maximum opposition by the defender.

For this analysis, Clausewitz's options may be translated into modern experience.

A combination of options (*a*) and (*b*) can be found in the traditional offensive defence concept of the WTO. This called for reliably superior potentials suited to invading the opponents's territory and overcoming any resistance. However, the very existence of superior offensive capacities must be perceived by the weaker side as threatening, and will certainly not support the cause of stability. Offensive defence concepts cannot, therefore, be allowed to guide either of the opposing parties. Apparently this is now being recognized by the WTO countries, which claim they are about to modify their operational defence concepts, stressing their defensive character.

Option (*c*) may be recognized in NATO's forward-defence concept. This is a purely defensive principle. NATO has plans neither for launching preemptive or preventive strikes nor for occupying an aggressor's territory, and it is prepared to fight on its own soil. Forward defence aims at limiting damage to alliance countries and populations, and at denying easy success to the attacker and avoiding any but temporary and tolerable losses of terrain. This requires conventional means and procedures appropriate for initiating cohesive and close-to-border defensive operations immediately at the outset of aggression, for compelling the attacker to cease aggression and to withdraw, and for regaining lost territories by counter-attack operations in order to re-establish the *status quo ante*. Early termination of war is another essential of NATO's strategy. If this cannot be achieved by conventional forward defence, the alliance is prepared for deliberate nuclear escalation.

For the Western alliance, lacking as it does sufficient space for mobile defensive operations in depth and being dependent on indigenous industrial and personnel resources as well as on public support of its defence efforts, there is probably no better choice than forward defence. If effectively implemented, the benefit of this concept is threefold: (*a*) it contributes to deterrence and prevention of war; (*b*) it may guarantee maximum security of the defender in case of war;

and (*c*) it does not compromise anyone except the aggressor.

Therefore, as long as vital political opposition continues to be the determinant factor in inter-alliance or inter-State relations, forward defence may be a useful concept not only for NATO but also for the WTO, and for any country.

Clausewitz's option (*d*) comes close to area defence concepts recently developed by Western alternative defence proponents. The idea is to trade time and space for earlier success, to utilize the entire territory to be defended or large parts of it for exposing the invading force to continuous attrition, and to submit the aggressor to growing difficulties resulting from extended lines of communication. This was a useful strategy of Russia in the Napoleonic war, and for the Soviet Union in the Second World War. From a purely war-fighting point of view, it might be an appropriate concept for future wars also, but for the following political and military reasons it is unacceptable to the West.

First, the adoption of an area or in-depth defence concept would probably not support the Western security policy directed at preventing war. On the contrary, it might be regarded as inviting rather than deterring an opponent's decision to wage war because reasonable prospects of territorial gains would remain.

Secondly, such an area defence concept would not meet any of the requirements of forward defence.

Thirdly, under contemporary conditions of technological progress, the geographical area available to NATO (in Central Europe the distance from the German Democratic Republic to the Strait of Dover does not exceed 600 kilometres) is simply not deep enough for effectively impeding an aggressor's capability to control the battle and to guarantee continuous combat and logistics support according to plan.

In summary, four conclusions regarding the fundamentals of defence apply:

a On the politico-strategic level, the criterion of defence is to await aggression;

b On the strategic-operational level, a forward defence concept appears to be a solution acceptable to any alliance or State;

c On the operational-tactical level, defensive and (counter-) offensive actions will continue to be elements of the defensive battle;

d Force strengths and structures of alliances and States must be tailored in such a way as to render feasible implementation of conclusions (*b*) and (*c*), while simultaneously reducing the risks of deliberate violation of conclusion (*a*).

A Possible Definition

The fourth point is crucial, but problematic. The core issue is how to bring about an appropriate mix of offensive and non-offensive elements in stability-oriented defensive force postures. The specific problem is: How can capabilities for initiating aggression be eliminated or substantially reduced without simultaneously compromising effective defence, which, in a forward defence concept, must rely on counter-offensive capabilities?

A key to harmonizing these apparently antagonistic goals has been repeatedly presented by, among others, Andrei A. Kokoshin, Deputy Director of the Soviet Institute for United States and Canadian Affairs, in Moscow.

> "In other words, WTO defensive capabilities must decisively exceed NATO's offensive capabilities, while NATO's defensive capabilities must decisively exceed WTO offensive capabilities. This would finally lead to a situation in which both sides' defence would be superior to their offence."[6]

This is a perfect description of the principle of mutual superiority of defence, which is intended to bring about ideal military conditions in Europe, but is potentially applicable to other regions as well.

The following may be concluded provisionally from the previous analysis: minimum sufficient defence is based on forward defence concepts adopted by both of two opposing alliances or States, and is brought into effect at the lowest possible levels of military potentials; the latter are organized in such a way as to ensure mutual superiority of defence.

How to Achieve Minimum Sufficient Defence

The Flaws of an Arms Reductions Approach

Arms reductions may result either in asymmetries at lower levels or in numerical parities that put an end to previously prevailing asymmetries. The latter is the main issue in the current, first phase of the Vienna CFE negotiations, and this is one of the most important differences between the CFE talks and the mutual and balanced force reduction talks (that died unmourned in February 1989, after 15 years of unsuccessful effort). Asymmetrical arms reductions aiming at numerical parities have always been requested by the Western alliance. It is to the credit of Mr. Gorbachev that the East's traditional demand for equal reductions was finally abandoned—a demand that would have resulted in consolidation of existing disparities and that was put forward for the last time in the WTO's Budapest appeal of June 1986. But what is the advantage of numerical parities if, as in CFE, stability is at stake? At first glance the establishment of numerical parities of offensive means may appear to be an adequate solution, but closer analysis reveals two major deficiencies in this approach.

First, history shows that force ratios do not necessarily determine the outcome of military engagements. This was already recognized by Sun Tzu, the classical Chinese author of the fourth century B.C., who postulated that "in war, numbers alone confer no advantage. Do not advance relying on sheer military power."[7] In fact, the high resolve of political leaders and military commanders, favourable structures and deployment of forces, superior leadership qualities, a lead in combat preparedness, or resolute use of surprise and initiative are often decisive factors, and may even help inferior forces to gain victory in battles or in war. Among many other events, Hannibal's triumph during the Battle of Cannae in 216 B.C., the German *Wehrmacht*'s victory against France in 1940, and Israel's war of 1967 have proved that numerical superiority is no guarantee of military success. But if a conventional war of aggression can be initiated and won by the inferior side, then it is all the more true that numerical parity is no reliable basis for stability as long as one or both opponents maintain the means to launch an attack. Under conditions of political hostility and acute military tension, there may even be no situation less stable. In fact, the calibre of available forces is as important as their numbers, perhaps even more so.

Secondly, while the level of parity between two opponents would not in principle invalidate the option of initiating war, it might severely affect forward defence. This is due to the fact that the minimum of forces necessary for implementing this concept depends not solely on the strength of the potential aggressor but, to a considerable extent, on the length of the territory to be defended. For instance, cohesive forward defence of the 900-kilometre-long Central European front line between the Baltic and the Danube may not be feasible with fewer than 30 to 35 mechanized divisions of the traditional type. On the other hand, the availability of 30 to 35 mechanized divisions on each side would be regarded by both as a source of instability and insecurity.

The conflict between the goal of achieving incapacity for aggression through deep cuts in offensive potentials and that of maintaining the levels of forces required for forward defence cannot be resolved solely through arms reductions. Eliminating existing disparities of offensive potentials is therefore a useful security-oriented step and clearly to the benefit of the weaker side, but not a conclusive remedy for the fundamental stability problem. The flaws of a purely parity-oriented arms control approach have been recognized by the CFE participants. Besides arms reductions, confidence-building and "stabilizing" measures are on the negotiation list, with the latter comprising primarily restrictions on deployment and on states of readiness of offense-oriented armaments. These provisions are suitable for increasing warning time and thus for severely reducing or even eliminating surprise attack capabilities. However, while violations may not occur unobserved, stabilizing measures are rather easily reversed in fairly short periods of time and will therefore not eliminate the capability to launch aggression.

Characteristics of a Solution

What is necessary is agreement on, and realization of, force structures which comply with the demand for mutual superiority of defence and which cannot be reversed in acute states of tension. Since it is obvious that a quantitative parity-oriented arms control approach cannot adequately satisfy both demands, a qualitative approach should be applied in addition, aiming at restructuring the armed forces in such a way as to give them an invariably defensive character. Such structures would comprise two discernible components:

a Strong defence-oriented components best suited for retaining terrain but unsuited for operational offensive action, and clearly exceeding the remaining offensive capacities of the opponent without exceeding the minimum required for implementing forward defence;

b Relatively weak offence-oriented counter-attack elements limited to minimum levels sufficient for supporting forward defence, but insufficient for aggression.

The crucial problem remaining is the conversion of the theoretical approach into military posture. Obviously, while any weapon may be used offensively the same is true for any military formation. Non-offensiveness is therefore plainly utopian. What may be achieved at best is some approximation to non-offensiveness, by eliminating capabilities for launching rapid and far-ranging thrusts. Based on the assumption that weapons may be either more offensive or more defensive, the selected weapons mix is of decisive significance.

Ground Forces

Defence-oriented light elements would be used to initiate defensive operations close to the borders immediately at the outset of aggression and to impose maximum attrition upon the invader by fire. Since these forces are to be unsuited for offensive operational action, armour and mobility must be restricted. Therefore, light forces should be composed predominantly of barrier engineering, light anti-tank and non-armoured infantry units, in this order of priority. Artillery and anti-tank helicopter units would be required, in addition to some mechanized elements which are indispensable for effective defence. While the number of major light units (e.g., divisions), armoured combat vehicles, artillery pieces and anti-tank helicopters should be negotiated between opponents and limited according to the principle of minimum sufficiency for defence, items of typical light equipment (e.g., mines of any kind or portable anti-tank weapons) may be left to the decision of each side, based on specific features of the terrain and individual tactical rules. Absolute numbers cannot be proposed in advance. However, by approximation, one light division might be sufficient for defending a 50-kilometre sector in Europe, and fewer than 200 armoured combat vehicles—corresponding to 27 to 38 per cent of the main battle tanks plus mechanized infantry combat vehicles presently available to mechanized divisions in West and East—well distributed between the various levels of command might suffice to provide each light division with the minimum of tactical flexibility required in combat.

The counter-offensive components indispensable for implementing a forward defence concept may be more easily projected. Their primary mission would be to react as heavy reserve forces aiming at the final destruction of previously reduced elements of the aggressor and at restoring the integrity of the defender's territory by regaining lost terrain. In tactical or operational crises they may be used in blocking operations. They must be capable of rapid cross-country movements, on short notice, by day and night and under enemy fire. They have to rely on fire, mobility and armour, and should therefore correspond to the types of mechanized forces presently available to NATO and the WTO, and to most other armies as well. Ideally, opposing States or alliances should have at their disposal equal numbers of equally sized heavy units, limited to the minimum necessary and sufficient for fulfilling their classical reserve forces' roles. In order to meet the requirement of mutual superiority of defence, their total strengths should not exceed the fourth part of the ground forces permitted to each opponent. It is certainly difficult to evolve absolute numbers of formations and their main items of equipment without the support of computer war-gaming, but one could tentatively say that one heavy unit disposing of a maximum of 200 main battle tanks and 160 mechanized infantry combat vehicles could be a sufficient reserve force for each 100-kilometre sector of the territory to be defended.

Air Forces

For air forces, arms control objectives should correspond to those applied to ground forces. Since both sides already have at their disposal considerable air defence capabilities, mutual superiority of defensive means and minimum sufficiency for defence may be achieved primarily through reductions of existing offensive air assets. But what does sufficiency mean for offensive air power?

a If options of surprise attack by ground forces may be ruled out through arms control, there is probably no need for the defender to maintain air attack forces for initial quick reaction;

b The introduction of defence-oriented ground forces in conjunction with deep cuts in offensive systems would significantly reduce the need for direct air support to ground forces in battle;

c Modern area surveillance, target acquisition, data transmission and fire control techniques may allow for transferring traditional close air support and battlefield air interdiction tasks from air to ground forces. However, this does not apply to anti-tank helicopters.

d Depending on the dimension of negotiated ground-force reductions, air interdiction and follow-on-forces attack, as well as the means required for their implementation, may become more or less superfluous.

Obviously, very deep cuts in air power are possible in an extended CFE process. This should even be made a deliberate goal, since offensive air assets may be easily used for surprise offensive action. However, due to their high speed and range, air forces cannot be restricted to specific regions. Since the super-Powers and other Western countries do have to secure some military out-of-area responsibilities, global aspects will have to be recognized on a selective basis. This will invariably limit prospects for air reductions.

Conclusion

Maybe East and West are about to restrict fundamentally the traditional role of military power as a means for accomplishing political objectives in their inter-alliance relations. Common adoption and realization of the principles described for minimum sufficiency for defence may help to pave the way for a profound and lasting reform of political relations. This may be achieved even if we accept that armaments are symptoms rather than sources of the politico-ideological East-West conflict. However, for the time being a state of non-opposition may not be much more than a long-term objective. As long as political antagonism continues to be a determinant factor, nothing like assured conventional military stability can be attained, because non-offensiveness of military potentials is utopian. This finally raises the issue of nuclear armaments.

Though not explicitly stated previously, one of the fundamental objectives of establishing a conventional minimum sufficiency defence régime for Europe is to reduce the need for early use of nuclear weapons in support of defence purposes. This may indeed be achieved in an extended CFE process. Nevertheless, nuclear weapons will continue to be the most effective stabilizing factor for both the Western and the Eastern alliances, and the full range from theatre to strategic nuclear forces will be needed to support the credibility of nuclear deterrence. Reductions of existing nuclear potentials to very low levels of parity are necessary and possible in order to strengthen military stability and security. Here too, a sufficiency rule may apply, certainly not in the sense of sufficiency for defence, but in the sense of sufficiency for war prevention.

References

1. The mandate of the CFE negotiation is reproduced in *Disarmament: A Periodic Review by the United Nations*, vol. XII, No. 2 (Summer 1989).
2. Wojciech Multan, "Minimum defence sufficiency, a requirement of our times", Polish Institute of International Affairs, PISM Occasional Paper No. 9, Warsaw, 1989.
3. Der Bundesminister der Auswaertigen, Mitteilung fuer die Presse No. 1114/89, Bonn, 23 June 1989. (Translation by H. D. Lemke.)
4. Carl von Clausewitz, *Vom Kriege*, 17th edition, Bonn 1966, p. 511. (Translation by H. D. Lemke.)
5. *Ibid.*, pp. 548-550.
6. A. Kokoshin, "Die beste Verteidigung ist nur Verteidigung: Aufforderung zur Diskussion" in *Neue Zeit* (Moscow), vol. 33 (August 1988), pp. 18-19. (Translation by H. D. Lemke.)
7. Sun Tzu, *The Art of War*. Translated and with an introduction by Samuel B. Griffith (London, Oxford University Press, 1963), p. 122.

Conventional Parity and Conventional Stability

Janusz Prystrom

Among all aspects of conventional stability in Europe, the most important one is the interrelationship of the following terms: numerical reductions, numerical parity, and conventional stability. The establishment of stability between the two military blocs in Europe is at present considered a priority issue. However, it is necessary to stress that such stability in military relations between modern armies, especially in the conventional field, does not simply arise from a quantitative parity. With regard to ways of achieving military stability in Europe, there exists the common attitude of the two military groups—the Warsaw Treaty Organization (WTO) and the North Atlantic Treaty Organization (NATO)—that relevant measures could include not only reductions but also limitations, provisions concerning redeployment and related measures, as well as the establishment of equal ceilings applicable to forces and equipment. This notion was formulated by the 23 countries in the mandate for the Vienna negotiations on conventional stability in Europe.

The doctrinal assumptions of both the WTO and the NATO countries, at least those which are publicly reported, do not contain anything that could be construed as aggressive. They are defensive assumptions. However, as far as the mutual perceptions of States and alliances are concerned, it is the military/technical aspects of military postures, not the

Janusz Prystrom is Head of the Disarmament Department of the Polish Institute of International Affairs.

political aspects, that represent the critically important source of threat. The image of the enemy is shaped by the overwhelming influence of military doctrines and postures. In the perception of both alliances there has developed a deep-rooted view of a fundamental incompatibility between peaceful political declarations, on the one hand, and the offensive capabilities of their military potentials, on the other.

From the historical point of view, it is necessary to examine the following fundamental questions:

a To what extent are the assumptions held still valid—assumptions dating back to the Second World War and reaffirmed in the post-war period—that offensive operations have the decisive role and that resolute offence alone can assure victory?

b How far are the quantitative and qualitative parameters of armed forces, their structure, deployment, command system, logistics and training still subordinated to the theory of the decisive role of offensive operations?

c To what extent do the principal elements of the notion of "victory" represent aspirations to destroy the enemy on his own territory and to occupy and hold his territory?

The above questions pertain to a problem of fundamental significance for the process of détente in Europe, namely, the readiness of the WTO and the NATO countries to replace the offensive structures of their armed forces and the corresponding content of their respective military doctrines/strategies. Consequences of the theory of the decisive role of offence have been a tendency towards highlighting the offensive means of warfare as well as a sustained aspiration to attain superiority in the means to conduct such combat operations, e.g., numerical superiority of troops and the principal types of weapons. Advances in military technology, in which priority has been given to offensive arms, have only served the purpose of consolidating the view that for victory there is no alternative to offensive operations.

The process of the development of offensive capabilities of military potential, accompanied by declarations by both sides of peaceful intentions, only accelerates the arms race and increases the mutual sense of threat.

The functional dimension of the problem of the impact of conventional stability on the politico-military context of East-West relations in Europe includes the following aspects:

—*Conventional stability and crisis stability*. Crisis situations constitute the most credible, albeit most dangerous, test of the true character of the military postures of armed forces. Armed forces offer stability in crisis situations if they are structured in ways that do not encourage early resort to military means and do not unnecessarily precipitate mobilization. One should also mention in this connection certain confidence- and security-building measures, for instance, zones of limited or dispersed armaments, which have the effect of prolonging the time of military preparations.

—*Conventional stability and stabilization of the dynamics of armaments*. Military potential should be developed in such a way as not to generate stimuli for an arms race. This can be accomplished provided both sides predicate their conventional capabilities on the principles of defensive defence and reasonable sufficiency. One of the integral elements of the process leading towards conventional stability should be the institution of effective constraints on the development of new conventional technologies.

—*Military doctrines/strategies and conventional stability in Europe*. The starting-point in discussions of a prospective model of military stability in Europe should be the assessment of the military options that prevail in a given area, taking into consideration especially those elements which account for asymmetry in such options. Such an assessment, particularly in Central Europe, will be a difficult task, given the requirement that any assessment of military options must resolve the key question—whom and what to count? Should one count, for instance, the existing armed forces alone, with due reflection of plans for their operational use, or should one also count reinforcements envisaged for Central Europe? To what extent and according to what criteria should one take into account such elements as level of training, quality of equipment and weapons, combat readiness, and the diverse elements of allied credibility, to mention just a few of the most typical characteristics of military strength of a given State or alliance? The establishment of certain general criteria for WTO and NATO military options assessment is, therefore, a particularly critical—albeit complicated—problem.

The attainment of a credible military stability calls for comprehensive action covering three basic spheres: the evolution of military doctrines/strategies of a strictly defensive character; deep quantitative reductions to eliminate asymmetries; and thorough modifications of the structure of armed forces. The end result of such action should be the elimination of capabilities for surprise attack and for the conduct of large-scale offensive operations. The evolution of the military-technical components of military doctrines/strategies will play a key role in the process of attaining military stability.

The military/technical dimension of the problem concerns, in the first place, the relationship between offensive and defensive elements of military potential, the role of counter-attack and counter-offensive potentials in the defensive doctrines and strategy, and, finally, the relationship between balance, parity and stability.

The problem of the relationship between offensive and defensive elements is the most critical dilemma of defensive postures. The defensive character of a military posture cannot preclude the development by a given State or alliance of a counter-attack or counter-offensive capability. Those capacities can be pursued within the framework of defence. The only open issue is the problem of determining what offensive potential would not be incompatible with defensive doctrine. First of all, such a potential must not give rise to the concern of other States that there exists a possibility of aggression on the part of the given State or alliance. As far as conventional forces are concerned, the offensive character of military potential may be determined not only by quantitative ceilings and the qualitative parameters of weapons, but also by deployment, structure, logistics, command system and reserves. The distinction between defensive and offensive strategy as well as between defensive and offensive potential can be made at the operational and strategic level, but not at the tactical one.

The prevailing numerical relationship of forces of the two politico-military groupings in Europe has been one of balance in the sense that neither side can count on gaining a preponderance that could guarantee winning a war. However, despite the general balance of forces, the military situation obtaining in Europe cannot possibly be characterized as one of stability. The principal reason for the lack of military stability in Europe is the asymmetry in military options that is deep-rooted in the respective perceptions of the two sides. In both official pronouncements and relevant professional literature on the subject, there is an oft-repeated view that the prevailing relationship between the approximate military potentials of the two alliances confirms the theory that military stability in general, and conventional stability in particular, is not functionally identical with numerical balance or parity. The numerical relationship of forces can in no case be the only, nor even the principal, criterion of the degree of stability. The urgent need to depart from numerical comparison, as the key premise of conventional stability, is now fully appreciated by the politico-military leadership circles of both alliances.

The necessity of bringing about structural changes of military potentials to make them more defensive—as yet another important premise of such stability—is also being increasingly recognized. Mutual readiness of the two sides to seek accommodation and give up offensive options is therefore, a fundamental pre-condition for effective negotiations to elaborate a prospective model of conventional stability. Such stability, based on reduced total potentials, but including developed defensive structures, should be the most sought-after goal in the efforts of the two politico-military groupings in Europe. One should underline here the pressing need for doctrinal and structural change on both sides because unilateral steps are clearly insufficient. Radical reductions, removal of the existing disproportions and asymmetries, and structural and doctrinal modifications should result in eliminating the capacity for surprise attack on both sides and their respective abilities to conduct large-scale offensive operations. Structural incapacity for surprise attack and for large-scale offensive operations appears, therefore, to represent the basic element of conventional stability.

The desirable, broad interpretation of the term "structural incapacity for attack" could include the following criteria:

—Incapacity for offensive operations, i.e., invasion of the enemy's territory and seizure thereof;

—Incapacity for counter-attack aimed at the seizure of the enemy's territory;

—Incapacity for deep strikes into the enemy's territory even if there is no intention to seize the territory.

In the narrow sense, structural incapacity for attack means the possession by both sides of capabilities that serve the objectives of military dissuasion and sufficient defence and whose organization, structure, weaponry, doctrines and deployment preclude the possibility of launching surprise attacks and the pursuit of offensive operations.

Such a concept of structural incapacity for attack is the crux of the Jaruzelski plan.

Modifications to WTO military doctrines and strategy should aim at preventing war by achieving the lowest level of forces sufficient for defence. To attain this objective it is necessary to carry through a radical reconstruction of traditional strategy, operational plans and tactics. According to WTO declarations and the relevant literature, "reliable defence" or "reasonable sufficiency" mean the minimum number of the highest-quality armed forces and armaments necessary for reliably ensuring a country's defence. It would seem that "defensive sufficiency" can be defined as presupposing:

a The commitment of each side not to be the first to launch an attack;

b The harmonization of structures of armed forces, groupings and deployments with the task of defence;

c The reduction of armed forces and conventional weapons to a level at which neither side would be capable of launching offensive action, while ensuring a reliable defence;

d A strict monitoring of the reduction of armed forces and weapons as well as of the military actions of the two sides.

As unilateral implementation of the principle of defensive sufficiency forces is practically impossible, such sufficiency must, therefore, be based on a mutual process and depend on the nature of the military threat.

One could add the following four specific elements compatible with the principle of defensive sufficiency:

a A non-offensive structure of the armed forces;

b Upper limits on offensive systems;

c Deployment changes with a view to fulfilling strictly defensive tasks;

d Changes in the mobilization systems and a reduced arms production output.

The adoption by both alliances of the principle of reasonable sufficiency, even with differences of interpretation, would certainly have far-reaching consequences for the content of military doctrine itself, for strategic, operational and tactical assumptions, and for the size, quality and structure of military potentials. The adoption of the principle of sufficiency must result, above all, in a substantive revision of the interpretation of the term "victory", that is to say, in abandoning any attempt to destroy the enemy on his own territory and to occupy that territory as well as in confining the objectives of counter-attack to the restoration of the *status quo ante*. Such an interpretation of the notion "victory" would be the direct consequence of depriving the military potentials of both alliances of their capabilities to launch attacks against enemy territory, even if there was no intention to occupy and hold that territory.

The problem of the evolution of military doctrines towards a strictly defensive mode is undoubtedly bound to become one of the most significant elements in the process of lowering the level and changing the structure of military confrontation in Europe. The development of full compatibility between the peaceful, defensive character of political aspects of the military doctrines, on the one hand, and all the military-technical elements of the military doctrines of the two alliances, on the other, has now become one of the fundamental conditions of demilitarizing East-West relations.

Among the many important aspects of the interrelationship of conventional stability and emerging conventional technologies, two seem to stand out as especially important. The first one relates to the question of the interrelationship of military stability and transarmament-disarmament. The second one relates to the more detailed question of the consideration of specific new technologies as suitable for either offensive or defensive use.

Some critics of the idea of non-offensive posture put on record different objections alleging that the authors of this idea place too much emphasis on transarmament and do not link it with the achievement of arms reduction. Such objections draw attention, first of all, to the fact that in the process of transarmament the quantity of offensive arms would decrease but the numbers of defensive ones would significantly increase. In fact, what would happen would be that, with one system of weapons being replaced by another system, the intensity of the arms race would stay unchanged.

In connection with this, the theoretically most likely situation, one could legitimately ask whether it is indeed necessary for defensive postures in the future to be based upon existing conventional weaponry selectively reduced or whether they should rather be based on emerging conventional technologies. In the view of this author, the issue of the relative significance of new technologies should not be unduly exaggerated in the context of the adoption of purely defensive postures by the two military blocs. Technology must clearly take second place to deep reductions and the restructuring of armed forces, as many of the existing systems can be effectively used also in non-offensive postures. The WTO countries consider that disarmament offers the most direct route towards implementing the concept of defensiveness, without calling for far-reaching conversion and modernization plans. Defensiveness is not a concept necessarily associated with any specific weapons, but rather one that must be viewed in the context of the comprehensive defence system of a State, including military doctrine/strategy, kind of military training and deployment, numerical level and structure of forces. If the declared purpose of a change in the existing, more or less offensive, military postures is to establish a mutually agreed defensive posture on both sides, then it is necessary to achieve gradual reductions directed above all at the offensive capabilities of the respective forces, while leaving intact their existing defensive elements.

The present discussion in Europe on desirable transformations in the military realm of security concentrates on the following two problems of key importance to any model of defensive defence:

a Should a model of defensive defence be developed by States engaged in their unilateral pursuits or should it emerge from negotiations?

b What is the strictly military realm of structural incapacity for attack, i.e. what are the military criteria for defensive sufficiency?

The view—until very recently predominant in both official pronouncements and opinions aired by researchers—that disarmament measures must be negotiated has been markedly altered mainly as a result of political decisions made by some countries to unilaterally reduce and restructure their military potentials. However, the position has been maintained that while unilateral measures are possible and necessary, they are not sufficient for the purpose of achieving the major objectives. It is quite natural that there has been an exchange of opinions, in which the military has played a special role, on how far the unilateral measures can go without upsetting defensive effectiveness. One of the points raised in the course of such debates is that arrival at a certain stage in reductions and restructuring is going to entail the need for the two sides to co-operate in promoting disarmament projects, including negotiations, for it is only through bilateral actions that the defensive may be distinguished from the offensive. Only such sizes and structures of military potentials as are seen as defensive by both the WTO and NATO will be genuinely defensive. It will therefore be imperative to work out common criteria for the assessment of military options and potentials. This holds true also for the principle of reasonable defensive sufficiency.

There is no other way to effect profound alterations in existing threat assessments than to abandon the perception of military potentials as threat elements. A related aspect is the proper appreciation of the impact that each bloc's perceptions of the other's strength and military options have upon armaments policies and the evaluation of the role that changes in the structure of forces and weaponry will play in achieving the desired political effect, i.e., a substantial reduction of the level of military confrontation. The crux of all these approaches is the relationship between the so-called non-provocative nature of the structure of forces, their deployment and weaponry, on the one hand, and the capacity for curbing the arms race and preventing crises from developing into major armed conflicts in Europe, on the other.

The socialist States are now well aware that the establishment of mutual structural defensiveness represents a basic prerequisite for progress in demilitarizing East-West relations. The demilitarization and related democratization of overall international relations will pave the way for a revision of the philosophies governing the activities of the military-political blocs, a revision entailing a re-interpretation of their objectives, structures, etc. This is a likely scenario of future developments following the establishment of defensive structures in the military potentials in Europe.

Mutual Inability to Launch Attacks, and Arms Reductions in Europe

Max Schmidt and Wolfgang Schwarz

It is a generally known fact that the European situation today is characterized by a particularly high level of military confrontation. Facing each other in the region between the Atlantic and the Urals are the armed forces of the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization (WTO), two groupings of 3.5 million men on either side and their arsenals that include thousands of short-range nuclear warheads and carrier systems, chemical means of mass destruction, and enormous numbers of large systems of conventional weapons, among them 15,000 combat aircraft and 90,000 tanks.

It is a cause for great concern that each side has available to it extremely strong offensive forces and weapons which, in case of conflict, can be used for deep strikes into enemy territory. This applies primarily to their tanks and aircraft, but is equally true for the full range of modern means of warfare. History has frequently shown that even between such massive military forces of potential adversaries, there can be some sort of equilibrium. Nevertheless, the danger of war cannot be warded off. The following point was correctly made, in this context, by Horst Afheldt, a well-known defence expert of the Federal Republic of Germany. In his book *Atomkrieg*,[1] he points out that although one might think

Max Schmidt is Director of the Institute for International Politics and Economy of the German Democratic Republic and Wolfgang Schwarz is a Research Associate at the Institute.

that military parity and war are mutually exclusive, history proves that military parity is closely associated with the longest and severest wars, and he cites the First World War as a case in point. He asks if a better type of military parity than that demonstrated for years in trench warfare is conceivable, and concludes that it is not.

However, one very important point has not been explicitly mentioned by Afheldt. So far in history, all cases have involved military constellations in which conventional potentials *with offensive capabilities* have faced each other, and this fact alone has made war a possible option for political and military leaders. The goal of a co-operative, complex, step-by-step disarmament process between NATO and the WTO, therefore, should be stability on the basis of *mutual inability to launch attacks*, on the basis of armed forces which, by size, composition, weapons, deployment, and training, have no option of launching a deep offensive strike. This is what we mean by "sufficient defence".

It would, at the same time, be the most effective way to prevent the nuclear disarmament process initiated by the Soviet-United States Treaty on the elimination of intermediate- and shorter-range nuclear missiles (INF) from giving rise in some way to anxieties or illusions to the effect that the dismantling of nuclear weapons in Europe might possibly mean a retreat to the past, to the era in which conventional wars—with which the European continent had been so terribly afflicted, especially in the course of this century—could be fought and won.

Mutual Inability to Launch Attacks—Definition

For a definition of the term "mutual inability to launch attacks", the assumption can be made that in military theory there are three different levels with regard to the expansion and evaluation of offensive and counter-offensive actions:

strategic, *operational*, and *tactical*. A *strategic* attack or counter-attack can determine the outcome of the war. It is aimed at the destruction of the adversary's important war potential and complete conquest of his territory. An attack or counter-attack of *operational* magnitude, however, covers merely a somewhat extended part of the war front. A *tactical* military operation, finally, is undertaken for locally delimited objectives. It is the two upper levels that are relevant to the mutual inability of NATO and the WTO to launch attacks, for the following reasons:

a The capability of one military coalition to launch strategic attacks or counter-attacks would threaten the entire substance of the other coalition, which—by all accounts of military history—would have to expect its own defeat and destruction if war broke out.

b While the capability to launch operational attacks or counter-attacks would not endanger the other alliance in its totality, it would expose the adversary's "front-line States" to severe danger and, under present-day conditions, jeopardize their very existence.

The significance of the second point may be easily seen if one looks at the situation of the two German States. The German Democratic Republic, the author's country, would, on account of its geostrategic position in Central Europe, located precisely on the NATO-WTO dividing line, be among the first and most severely struck countries in the event of military conflict between the two blocs. Even operational activities by NATO air and land forces would be a strategic threat to it, since its territory is roughly 108,000 square kilometres and its average geographic depth about 250 kilometres. The operational warfare range today is between 300 and 350 kilometres for the air force or between 80 and 100 kilometres for land forces. The Government of the Federal Republic of Germany has correctly drawn attention to its country's high vulnerability in case of war, since

30 per cent of its population and 25 per cent of its industrial potential are located within a 100-kilometre strip along the border with the German Democratic Republic and Czechoslovakia.[2] The German Democratic Republic would be even more vulnerable: its territory is smaller by two thirds, and the proportion of its population and industrial potential that would be affected would thus be much higher.

Consequently, consideration of and proposals and measures for the mutual inability of NATO and the WTO to launch attacks should be aimed at the inability of the *entire* military potentials of either side in Europe, and particular emphasis should be laid on the strategic and operational inability of those forces that directly face each other. Such offensive incapability would be achieved if the forces and military hardware left after drastic bilateral reduction and restructuring could be used for neither surprise attacks nor other massive frontier-crossing operations. Only then would neither side be militarily capable of substantially endangering the very existence of its adversary on the latter's own territory.

Mutual Inability to Launch Attacks—Major Practical Aspects

The following three points are of decisive relevance to achieving such a desirable condition for the NATO-WTO relationship in Europe:

a The military doctrines of both sides must be based on strictly defensive concepts primarily aimed at war prevention or—should a military conflict erupt—at the earliest possible political settlement and, in terms of military strategy, at stopping the enemy's advance and avoiding premeditated warfare escalation in order to provide leeway for political termination of the conflict. In terms of military strategy, this would require each side to renounce frontier-crossing counter-offensives of land forces and to abandon deep air force strikes.

b Regarding military deployment, inability to launch a surprise attack should be reflected in the widest possible absence of highly offensive formations and structures, and of weapons that would be required for frontier-crossing strategic or operational attacks and counter-attacks. It should also be demonstrated by the way armed forces are deployed and by their peacetime activities. To all intents and purposes, this would boil down to military potentials suitable for merely close-to-frontier defence, without any physical means for offensive operations above the tactical level.

The complete elimination of short-range nuclear systems and chemical weapons from Europe would be eventually necessary in order to achieve the above purpose, that is, removal of those systems which, on account of their very nature, can be used for operational and strategic strikes as long as they are present on European soil.

As to conventional forces, structures, and heavy-duty weapons, the achievement of mutual inability to launch attacks would not entirely depend on the complete elimination of the most dangerous offensive components, although their removal would most certainly help to solve the problem. Since these components, for example, tanks and artillery, can at the same time play a major role in defence, it would be conceivable to reduce them bilaterally to levels below the "critical mass" necessary for strategic and operational attacks and counter-attacks. Precise limits could best be worked out jointly, by military experts of both alliances. One approach might be to reduce the most dangerous offensive conventional systems (together with all their pertinent units and structures) to levels at which "WTO defensive capabilities are widely superior to NATO offensive capabilities" and, equally, "NATO defensive capabilities are widely superior to WTO offensive capabilities''.[3] The definition of the most dangerous offensive conventional units, structures, and weapons should not be made by one side. It should rather be made jointly by Warsaw Treaty and NATO countries and with due consideration of the other side's particular anxieties. To outline a general framework, this should include components which, on account of their range and/or mobility, could exert weaponry effects on the opponent's territory or region or with which, given sufficient concentration, thrusts of operational or even strategic magnitude might be attempted, in conjunction with engineering, logistic, and communication or related facilities that might be used to back up such operations.

c The structural inability to launch attacks should, after all, be verifiable for the opponent at any time and should be accepted as being verifiable. It should be highly transparent and accessible to verification measures, even at very short notice in dubious cases, and, as repeatedly proposed by Warsaw Treaty States, open to ''unrefusable on-site inspections''.[4] Mutual transparency should be greatly extended to include many other areas related to military potentials, such as development and procurement programmes, defence budgets and mobilization plans, as well as to training schemes for officers and lower ranks.

The mutual inability of NATO and the WTO to launch attacks in Europe will require the dismantling of asymmetries in military sub-areas that have come into being in the course of history, but have long been sources of suspicion and exaggerated threat perceptions. To that end, the methodology of INF might ''be employed . . . in an analogous way'', a proposition originally made by the former Italian Foreign Minister Giulio Andreotti.[5] This might be quite practicable and effective, since several important methodological approaches were efficiently combined in INF:

—Removal of any given asymmetry by the side controlling more systems of a category of weapons by dismantling more of them;

—Deep parallel cuts in the weapons categories concerned on either side (equal upper limits at lower levels—down to zero in the ideal case);

—Synchronized start of arms reductions on both sides;

—Scrapping of all large weapons systems removed from active service.

Such an approach would be helpful in concluding agreements by which security would be improved for all parties involved and by which the reduction of asymmetries would not grow into unacceptable unilateral disarmament. The decision regarding the total volume of desirable reductions, that is, regarding ceilings for armed forces remaining in existence on either side for purposes of sufficient defence, should be taken in accordance with the principle of mutual inability to launch attacks, implying the total removal of strategic and operational offensive options from both sides.

Moreover, mutual inability to launch attacks should be accomplished in a way such that the arms race is decelerated and eventually stopped, with present arsenals being successively reduced. It should thus be primarily accomplished via non-modernization and the limitation and drastic reduction of armed forces and hardware rather than via the so-called defensive restructuring of armament,[6] which certain Western experts have suggested. In addition, due consideration should be given to the fact that disarmament has become a categorical imperative for economic reasons also.

Approach and Initiatives of the WTO

The Warsaw Treaty parties are prepared to embark jointly with NATO on the road to such fundamental changes, and they have already created some conditions conducive to that purpose, both political and strategic, as well as initiatives in terms of military doctrine. A first substantial step in that direction was undertaken by drafting and publishing in 1987 a policy document under the heading "On the military doctrine of the States parties to the Warsaw Treaty", in which an offer was submitted to NATO for the "reduction of the armed forces and conventional armaments in Europe to a level where neither side, maintaining its defence capacity, would have the means to stage a surprise attack against the other side or offensive operations in general".[7] Hence, the objective of establishing for the military alliances in Europe the mutual inability to launch attacks has been announced as a collective commitment of the WTO.

Ever since, the WTO has been engaged in a continuous and extremely intensive process to translate these changes into political and military practice, a process which has already yielded several important domestic and international results.

For example, the WTO has proposed to NATO that the two sides jointly continue the process of nuclear disarmament in Europe by opening negotiations on the dismantling of short-range nuclear weapons on each side (and until such an agreement can be signed, by mutually renouncing modernization in that field).[8] The USSR, in order to fuel that development, has decided to withdraw unilaterally from the territories of its socialist allies 500 nuclear warheads for short-range operations beginning already in 1989, and has declared its willingness to withdraw all categories of nuclear warheads from the territory of its allies by 1991, provided the United States takes a similar step in response.[9]

The approach of the WTO to mutual inability to launch attacks has also taken shape in a document outlining its conceptual framework for the talks with NATO on conventional armed forces in Europe, which opened in Vienna in March 1989. The socialist States' proposals made in that context have been placed on the record. They have suggested that in the first phase of disarmament emphasis should be laid by all parties on the bilateral elimination of existing asymmetries in armed forces and in the most destabilizing components of armament (offensive aircraft, combat helicopters, tanks, multiple rocket launchers, mortars, artillery pieces, and armoured personnel carriers). These components should be reduced to equal, lower ceilings throughout the whole region from the Atlantic to the Urals. The following limits have been proposed by the WTO for each side:

Military personnel (men)	1,350,000
Tactical aviation combat aircraft	1,500
Combat helicopters	1,700
Tanks	20,000
Multiple rocket launchers, artillery pieces and mortars	24,000
Armoured personnel carriers and infantry fighting vehicles	28,000

Implementation of these proposals would bring about drastic cuts on either side. To achieve these limits—just to mention a few main figures—the WTO would have to discard 40,000 tanks, 42,000 armoured personnel carriers and 46,000 guns and mortars, whereas NATO would have to remove, for example, 2,500 combat aircraft.

The ceilings proposed by the WTO in Vienna should be reached via a step-by-step approach by 1996/97 and should be subject to stringent reciprocal verification. This would be helpful in creating conditions of complete parity with regard to the most offensive components. From such conditions of parity it would be possible to proceed to more substantial reductions, which would eventually also include weapons categories not yet covered by current agreements and give "the armed forces of the two alliances a strictly defensive character".[10]

The socialist States' resolve to do their utmost to usher in, jointly with NATO, the process of conventional disarmament and to put into practice the idea of mutual inability to launch attacks has been strongly underlined by far-reaching unilateral initiatives by the USSR, the German Democratic Republic, Czechoslovakia, and other Warsaw Treaty parties (see table on p. 80). Such initiatives were announced in December 1988 and are to be implemented by 1990, though some major steps have already been taken. The initiatives provide for the substantial dismantling of offensive forces, particularly in Central Europe and in areas opposite NATO positions. The USSR, for example, is withdrawing four tank divisions from the German Democratic Republic as well as one tank division each from Czechoslovakia and Hungary. These divisions will be demobilized. Also being withdrawn are airborne troops and engineer units for river-crossing operations. All in all, 50,000 men and 5,000 tanks will be withdrawn. The Soviet forces remaining in these countries will be reorganized into unambiguously defensive structures by, for example, clearly reducing the number of combat vehicles in the tank and motorized infantry divisions. The armed forces of the German Democratic Republic will be reduced by 10,000 men. Six tank regiments and one squadron of combat aircraft will be dissolved, in this context, with 600 tanks and 50 fighter aircraft being demobilized. This will impart an even more strictly defensive profile to the National People's Army of the German Democratic Republic. Czechoslovakia will demobilize 12,000 soldiers now in combat units and will put out of service 850 tanks and 51 combat aircraft. Other substantial disarmament steps are being taken unilaterally by the USSR, Hungary, Bulgaria and Poland.

These measures represent the transition from an offensive to a defensive defence strategy for the WTO, and they clearly signal that transition to NATO. The assumption of the past was that an aggressor must be destroyed on his own territory and, consequently, victory was seen as the objective of a war of defence, should such a war ever be forced upon the WTO. Such a war aim required an offensive defence strategy. However, under present conditions, victory can no longer be considered a realistic purpose of war between NATO and the WTO. Any kind of escalating war in Europe, nuclear or conventional, would inevitably lead to the destruction of highly industrialized societies in the East and West, all of which have come to be extremely vulnerable to military violence.[11] Hence, the policy of reasonable sufficiency of defence capabilities, premised on the inability of the armed forces to launch attacks and aiming at political settlement in case of a military clash, has become the only sensible option for any realistic military strategy. The Warsaw Treaty countries are now going to carry out a complete about-turn—to the extent to which such a reversal can be made by one side—in order to move in that direction. In a joint statement at their Bucharest summit in July 1989, they reaffirmed their determination to maintain "a military balance at the lowest possible level, one sufficient for defence but ruling out a surprise attack or large-scale offensive action".[12]

However, one point must be made crystal clear: the danger of war and destruction still hovering over Europe cannot be definitely averted unless adequate, far-reaching changes are introduced by NATO as well. This can and should be done within the scope of the Vienna negotiations on conventional forces and arms. The scope necessary for that purpose has been clearly set out by the mandate given to the negotiators, the gist of the matter being "the elimination . . . of the capability for launching surprise attack and for initiating large-scale offensive action", in plain language, the achievement of mutual inability to launch attack in the context of sufficient defence. The decision was formulated as follows: "Each and every participant undertakes to contribute to the attainment of these objectives."[13]

Table

Unilateral reductions of armed forces and defence budgets, as announced by Warsaw Treaty parties
Position on 1 March 1989

	Reductions					
Country	*Troops*	*Tanks*	*Armoured personnel*	*Artillery/ mortars*	*Combat aircraft*	*Defence budgets, as percentage*
Bulgaria	10,000	200	—	200	20	12
Czechoslovakia	12,000	850	165	—	51	15
GDR	10,000	600	—	—	50	10
Hungary	9,300	251	30	430	9	17
Poland	15,000	—	—	—	—	from 7.7 to 5.5[a]
Romania	—	—	—	—	—	—
USSR in Europe	240,000	10,000	—	8,500	800	14.2
WTO in Europe	296,300	11,901	195	9,130		
USSR in Asia	200,000	—	—	—	—	
USSR in south	60,000	—	—	—	—	
WTO total	556,300	11,901	195	9,130	930	

[a] Relative to national budget.

The position of the WTO on reductions in the six major categories listed above was hardly congruent with the NATO line in the first round of the Vienna talks, since NATO was prepared to talk about only three: tanks, armoured personnel carriers and artillery. However, remarkable *rapprochement* was evident from the second round. After NATO had announced at its summit in May that it was prepared to talk about aircraft, helicopters and personnel, this change was translated into negotiable proposals in Vienna in July. This is a promising development which, in spite of remaining differences, is likely to support hopes for success in the spirit of the mandate at future rounds of the talks.

References

1. H. Afheldt, *Atomkrieg. Das Verhängnis einer Politik mit militärischen Mitteln* (Munich, Vienna, 1984), pp. 27 and 28.
2. Cf. Weissbuch 1983. *Zur Sicherheit der Bundesrepublik Deutschland*, Federal Minister of Defence, ed. (Bonn, 1983), p. 136.
3. A. Kokoshin, "The best defence is solely defence", *New Time*, Moscow, 33/1988, p. 19.
4. See part 3 of "Statement by the States parties to the Warsaw Treaty on negotiations on reductions in armed forces and conventional arms in Europe", a document of the meeting of the Political Consultative Committee of the States Parties to the Warsaw Treaty, Warsaw, 15-16 July 1988, and circulated as a United Nations General Assembly document, A/43/486, annex II.
5. Quoted from *Neues Deutschland*, 23 February 1988.
6. For a critical appraisal of such concepts, see: W. Schwarz, *Structural Incapacity for Attack in Europe: Requirements, Blueprints, Obstacles*, IPW-Forschungshefte (Berlin), 2/1989, p. 76 ff.
7. See part II of "On the military doctrine of the States parties to the Warsaw Treaty", a document of the meeting of the Political Consultative Committee of the States Parties to the Warsaw Treaty, Berlin, 28-29 May 1987, circulated as a United Nations General Assembly document (A/42/313, annex II).
8. See part II of the "Declaration of the States parties to the Warsaw Treaty on tactical nuclear arms in Europe", a document of the meeting of the Committee of the Ministers of Foreign Affairs of the States Parties to the Warsaw Treaty, Berlin, 11-12 April 1989, and circulated as a document of the United Nations General Assembly (A/44/228, annex II).
9. See part II of "For a stable and secure Europe free from nuclear and chemical weapons, and for a substantial reduction in armed forces,

armaments and military spending", a document of the meeting of the Political Consultative Committee of the States Parties to the Warsaw Treaty, Bucharest, 7-8 July 1989, and circulated as a United Nations General Assembly document (A/44/386, annex II).

10. "Statement by the States parties to the Warsaw Treaty on negotiations on reductions in armed forces and conventional arms in Europe", part 1. (See note 4.)

11. For more detailed treatment of the issue of the extreme vulnerability of modern industrialized States, see M. Schmidt, *Research for Peace*, Berlin, I/89.

12. See note 9.

13. Mandate for the Negotiation on Conventional Armed Forces in Europe, published in *Disarmament: A Periodic Review by the United Nations*, vol. XII, No. 2 (Summer 1989, Sales No. E.89.IX.4).

Can Non-Offensive Defence Improve Arms Reductions?

Haakan Wiberg

The aim of this article is to analyse how arms reductions and the notion of sufficient defence might interact with each other. I will first spell out a couple of the points of departure for the argument, after which I will discuss the desirability and feasibility of arms reductions, identifying some main obstacles. Following that, I will discuss some different interpretations of "sufficient defence", the research approaches that they entail, and the conceptual elements that become central to the argument. Finally, I will try to link the ideas of arms reductions and sufficient defence through the crucial notion of non-offensive defence.

Points of Departure

This article will take as its point of departure an examination of the doctrines of States and alliances. There is considerable debate as to whether doctrines are best understood as instruments of what they purport to be—guidelines for policies of national security—or whether they are better understood as by-products—legitimizing lines of action that have quite different causes. As will be seen from the reservations made below, the fact that I take doctrines as a point of departure does not imply any stand in this debate. The purpose of the present article is to look at the problems of arms reductions and sufficient defence through the lens of doctrine, leaving open the question of what they would look like, if viewed through other lenses.

Haakan Wiberg is Director of the Centre for Peace and Conflict Research in Copenhagen, Denmark.

According to the doctrines of most States, the State has, or strives to have, a level of military preparedness aimed at two things: (*a*) the ability to defend itself against reasonably conceivable attacks and (*b*) the ability to deter or dissuade other States from attacking it. (A number of other official motives can also be found, such as control of "internal enemies", but they are not essential to the argument in this article.)

The doctrines vary considerably in the manner in which they link these two stated objectives. In some, for example, those of a number of non-aligned countries,[1] the capability of dissuasion is assumed to rest entirely on defence capability; there is no element of even a hypothetical threat of retaliation. In more ambitious versions, for example, Yugoslavia's, the defence capability aimed at must be sufficient to repel any reasonably conceivable attack, or at least to throw the invader out eventually. In other States, such as Austria, Finland, Sweden and Switzerland, the doctrine is built upon an assumed cost/benefit rationality on the part of a potential aggressor. It is assumed that an invasion would benefit him only if he gained control of secondary strategic assets. For this reason dissuasion only requires making it credible that an invasion will be so uncertain, costly and time-consuming that it will not be worthwhile.

In other doctrines, defence alone is not assumed to be sufficient to dissuade potential aggressors. They also build on a stronger kind of deterrence: on the ability to launch painful or even devastating offensive attacks, conventional and/or nuclear, against aggressors. Involved in this may be various combinations of reasoning concerning strategic geography (for example, pre-war Germany and modern Israel), timing of mobilization (the 1914 squeeze in Europe), political/(quasi)psychological evaluations ("It is the only language they understand"), a perceived lack in one's own attainable defence resources (a traditional element in the doctrine of the North Atlantic Treaty Organization (NATO)), or the belief that deterrence by punishment is seen as cheaper than deterrence by denial only (a belief found in the doctrines of both major blocs).

The main line of my argument will not deal with whether the doctrinal reasons are the "real" ones or not. The doctrines themselves are social facts, whatever their possible underlying motives, and so is the military apparatus that is justified by the doctrines; by virtue of that, the doctrines must be assumed to have real consequences. This, of course, is not to say that there are not other factors behind these consequences. Still less is it to say that the actual consequences are those intended according to the doctrines, or that they are even compatible with them. Several cases of arms races and escalating crises illustrate that the net result of two doctrines and, especially, of the interaction they engender may quite well be precisely what both were designed to avoid.

Arms Reductions

There are several arguments—although none is uncontroversial—for worrying about high levels of armament and wanting to reduce them:

a They are a waste of resources—labour, capital, products, trained scientists and technologists—that could be much more fruitfully used for national and international development;[2]

b They lead to the militarization of societies—socially, economically, culturally, etc. (That discussion is beyond the scope of the present article.);

c They increase the danger of war.

The third argument is the crucial one in the present context. It is obviously a highly controversial one. The opposite position is that it is precisely balances of power, however conceived, that serve to avert wars by deterrence.

Much can be said—and has been said—about this issue, which is obviously very susceptible to ideological interpretations. To the extent that systematic statistical studies concerning military expenditures and wars can be of any guidance, they can be summed up in the following points:[3]

a There seems to be a weak association between high military expenditures of individual States and their participation in wars. There is no firm support for a causal interpretation of this but, by the same token, there is even less support for the notion that high levels of armament tend to contribute to averting war.

b There is a stronger association between quick rises in the levels of armament of individual nations and their participation in wars. Here too, caution is necessary, since different causal interpretations are possible: that the rise contributed to causing the war, that the anticipated war contributed to the rise, or that both the rise and the war were the products of some other underlying factors of competition or conflict. Again it is true that if there is no firm support for the argument that a rise in the level of armaments tends to cause wars, there is even less support for the argument that it tends to avert wars.

c If a pair of States have a confrontation, the risk that the confrontation will escalate into a war is higher, the higher the military preparedness of either State. It is highest when both have high levels, and lowest when both have low levels.

d If both States have higher-than-normal rises in arms expenditures for at least a few years, the risk of war between them is particularly high.

e There is no support for the notion that approximate equality of military capability tends to preserve peace between two States. On the contrary, the risk of war is higher when there is parity than when there is a marked discrepancy between them. It is particularly high if one passes the other—

which, of course, can only happen if they are very close to each other.

Several reservations should be made here. First, statistical analysis can tell you only about general tendencies, and even among the cases where these general tendencies can be interpreted causally, there may, in specific instances, be other and stronger causal factors that work in the opposite direction. Secondly, these propositions are only about the relationship between armaments and wars, and therefore cover only limited aspects of national security. Thirdly, most of the analyses cover long time periods. We have much less systematic evidence regarding the shorter time period in which two or more international actors have had deliverable nuclear weapons.

Still, to the extent that we can draw any firm conclusions at all from the body of existing studies, there is an indication that high levels of armaments and, in particular, simultaneous high rises in the levels of two opposing States are—at the very least—clear warning signals.

The question may now be formulated whether the relationships that seem to exist between armament levels and wars also work in the opposite direction: whether arms reductions can be expected to reduce the risks of war. This question is more difficult to answer. First, we find many fewer cases of rapid disarmament than of rapid rearmament, so the empirical basis for analysis is slimmer. Secondly, we have a major (from the analytical point of view) disturbing factor. Periods of major disarmament are almost exclusively found immediately after major wars, so we do not know for sure whether the lower risks of war that appear to be associated with them are due to effects of disarmament, or whether both the disarmament and the lower incidence of war are due to the general war weariness that tends to follow a major war. Even so, if any overall conclusion is justifiable, it should primarily be to the effect that disarmament tends to reduce the risk of war, everything else being equal.

Everything else, however, is usually not equal, so we cannot draw a firm conclusion to the effect that any disarmament is always favourable to peace. The general reservation that may be made can be formulated as follows. Even if it is true that there is no risk of war if both parties are completely disarmed, it does not follow that any move from the present towards that point will reduce risks. It may well be that the road from a zone of danger to a zone of less danger passes through zones of even higher danger. The word "may" is stressed here, since this argument, presented in different versions by some authors, is a purely theoretical one, with no empirical research to back it up.

Even so, it deserves to be taken seriously. Since in some cases we cannot possibly get sufficient empirical data from which to draw any firm conclusion, we have to make do with theoretical arguments and counter-arguments.

That leads us to ask whether we can identify any ideal or optimal roads to arms reductions. If so, we have to look at more specific aspects of defence organizations than the measure of total military expenditures, which is what is usually used in statistical analyses.

One point of departure might be the traditional formula that disarmament needs to be mutual, balanced and verifiable. However, since this formula was established a generation ago, in the McCloy-Zorin agreement, global armaments have approximately doubled. This trend has even been much worse in some regions and in some types of weapons, for example, nuclear ones, and the (quantitatively) minor results in disarmament have been minor precisely because of this comparison. That seems to indicate that if this formula is to lead anywhere, a fresh look has to be taken at it.

One problem with it has been the term "mutual", which has often been interpreted as "exclusively mutual", that is, excluding unilateral steps because they tend to be seen in terms of loss of "bargaining chips". This problem has to be dealt with.

Another problem lies in the word "balanced", which has very often been interpreted in purely quantitive terms. Thus, negotiations have tended to get stuck in "bean-counting", with the late mutual and balanced force reduction negotiations in Vienna as the worst example, or to stumble on with seemingly insoluble issues of "rates of exchange" between nuclear missiles, tanks, troops, etc. This is another problem that has to be dealt with.

The term "verifiable" has also led to problems, a basic one being that it can mean so many things—you can give different answers to the question, How much is enough? The extreme interpretation will be in absolute terms: a procedure of verification is considered sufficient only if it can provide absolute certainty that the measure agreed upon is in fact carried out. More sophisticated interpretations will consider a procedure sufficient if it entails a risk of disclosing cheating that is so high that cheating is not worthwhile. Some negotiations have got stuck in exaggerated, absolutist interpretations of verification, the worst example probably being those on a comprehensive test-ban treaty, which have gone on intermittently since 1963.

Before we continue our discussion of what kinds of arms reductions might be both desirable and feasible, we have to look at some of the factors and processes that determine levels of armament.

Notions of Sufficient Defence

The classical question concerning defence is: How much is enough? The question may be interpreted as a purely political one, a question that can be answered only by political means, by the decision-making procedures concerning national security that are employed in a particular country.

The most succinct answer to the question, understood in this way, may have been given a few decades ago by Ernst Wigforss, the Swedish Minister of Finance, who said: "One should give the military as much as is politically suitable, and then leave them to make the best of that."

Looking at the question in this way also determines in what ways scientific research can be applied to it. In essence, research will have to consist of trying to find the factors that seem to influence the levels of military expenditures that States decide to impose upon themselves. In such studies, the decision-making machinery is sometimes treated as a "black box" between the observable characteristics of States on the one hand (GNP, GNP/capita, population, area, number of boundaries and boundary disputes, recent experiences of wars, alignment or not, type of socio-economic system, and so forth) and absolute or relative military expenditures (or more sophisticated measures of military preparedness) on the other hand. Other studies deal more specifically with the decision-making machinery and what happens in it, looking at political processes, interest groups, types of argumentation and underlying tacit rules as to what constitutes valid argumentation, etc. In the case of the first type, there are a number of international studies;[4] in the case of the second type, there are mainly case studies of a single country, and they are only rarely comparable.

If research is to provide any guidelines for change, however, it has to have wider ambitions than just describing what States are doing. It has to point to alternatives that would—in some sense—be more rational than the present policies, and has to demonstrate this, or at least make it credible.

The crucial term here is "rational", since it is a very ambiguous one. We will focus on one specific interpretation of it: a means-ends relationship, where the means under consideration are all aspects of the military forces (manpower, equipment, training, deployment, tactics, strategy and doctrine) and the ends under consideration are those officially stated (the ability to avert a war by making any aggression appear ill-advised, and the ability to defend oneself against reasonably conceivable cases of aggression, should they nevertheless occur). These tend to be the obvious functions of armed forces proclaimed in national or alliance doctrines. There can also be various latent functions, such as employment, survival in domestic politics, the symbolism of international status, capability for aggressive intervention, intra-alliance bargaining chips, and so on. The fact that these have not been considered here should not be seen as naïvety, but as an effort to focus on precisely the officially intended means-ends relationship in order to see what improvements might be possible there.

At the highest level of abstraction—and in the terms in which it tends to present itself—defence planning includes the following operations:

a Producing a very wide array of scenarios of conceivable acts of aggression;

b Discarding those scenarios that are not only unlikely, but that are so unlikely that there is no reason to plan for them;

c Discarding those scenarios that one already has sufficient resources to cope with;

d Discarding those scenarios that one cannot possibly obtain sufficient resources to cope with;

e Calculating what resources one needs in order to cope with the remaining scenarios and planning how to get those resources.

When we move to lower levels of abstraction, new problems become visible. One set can be summarized in the question, What is meant by "reasonably conceivable"?—which points to the division of competence between experts and politicians and to the risks that this division will become obfuscated. We can illustrate this with a caricature: The experts produce the scenarios. They then take it for granted that the "weeding out" process among them will be the responsibility of the politicians. The politicians, however, when receiving the scenarios, take it for granted that the experts have already done the weeding out—and hence the decision as to what scenarios to base defence planning on makes itself, without anybody having made it.

In more precise terms, the production of scenarios is obviously a task for military or civilian experts on national security, as is the assessment of their likelihood. On the other hand, it is equally obvious that the decision as to what level of incredibility disqualifies a scenario is a matter for political decision. Deciding what scenarios one already has resources to cope with may be a matter for experts, but deciding what one cannot possibly get resources for must include a political decision about priorities.

When we analyse the actual processes of defence planning from a social science perspective (rather than just accepting their internal logic), it seems obvious that there are built-in forces of expansion, since it is much more common for States to increase than to decrease their military expenditures in real terms. Much research has been done on trying to determine to what extent these forces are predominantly domestic (interest groups, domestic politics, etc.) or predominantly interactive, that is, action/reaction processes between States. The best answer appears to be that this varies from State to State and from period to period: there is no generally valid answer.[5]

Whether the interactive forces are predominant or not, it is safe to assume that they are always there, and often important. In the abstract terms outlined above, the essential mechanism is then that the result of the planning process in one State—increased military resources—affects the selection or description of scenarios in the other State, which leads to increased military resources there, and so on.

Judging from the typical results, this is at least the normal outcome of the interaction. Still, we should not believe this to be some kind of immutable law, but rather look for the "unless. . . ." clauses that may describe possibilities for breaking these spirals.

One such clause is: "unless the politicians intervene by weeding more thoroughly than before in the scenarios", that is, by deciding to no longer count another State as a potential aggressor, to no longer consider the possibility that an alliance will be formed between two main competitors, to no longer assume that a given potential aggressor is willing to take extremely great risks, etc. This can happen, and has happened, and depends—among other things—on what we vaguely call "international climate".

Another possible clause is: "unless the increased military resources on the other side do not mean that it gets an increased capability for aggression". This requires that one go beyond the crude quantitative measures of military expenditures or of specific categories of weapons to see what the changes mean in terms of options.

The "options approach" was introduced in the debate on confidence-building measures by Christoph Bertram more than a decade ago, but has equal, and even higher, validity when it comes to discussing sufficient defence. The basic logic is that either side will have an interest in being able to rule out, in its security planning, certain options that the other side may have. If, for example, the feared option is a major surprise attack from the other side, there are several possibilities. The increased transparency and predictability contained in confidence-building measures may play a part. Where this is not sufficient, changes in deployments on the other side is another alternative, for example, "thinned-out zones" for tanks, units, etc. Still another possibility is the reduction or elimination of elements that would be indispensable in a surprise operation, for example, bridge-building equipment in some cases or naval infantry in others.

Non-Offensive Defence

One important part of the discussion on sufficient defence must be the notion of non-offensive defence.[6] This debate originated in the Federal Republic of Germany in the late 1970s, and has been more wide-ranging there than elsewhere.[7] It has become a major source of ideas for debates in other Western countries. It has also influenced thinking in the USSR and the Warsaw Treaty Organization, where such notions have been incorporated into the national and alliance doctrines of security since 1986/1987.

Put in very general terms, the central idea in this debate is that *transarmament* into more defensive structures, that is, into military structures with the same or increased defensive capability but reduced offensive capability, would be able to solve or ameliorate problems concerning arms races, crisis stability, etc. (The other ideas are not of immediate relevance here.) First, it is argued that it would alleviate or eliminate the security dilemma, in which one side, seeing increased military resources on the other side as a potential threat, increases its own resources—which leads to the perception of increased threat on the part of the other side, and so forth. As long as the resources are dual capable (possible to use for offence as well as for defence), the dilemma is there, but if the total offensive capability of the other side decreases, it may be resolved. Secondly, it is argued that transition to structures with less offensive capability will increase crisis stability, because the possible premium on striking first in a tense situation will be reduced or eliminated. On the one hand, there is less to risk by waiting, and on the other hand, there are less profitable targets to attack.

Attractive as this notion may appear in a theoretical discussion, a number of important questions have been raised about it: Is it militarily feasible? If so, would it avoid side-effects that would be worse than what it is trying to cure? Is it affordable? Can non-offensive defence be carried out unilaterally, or do such moves necessarily presuppose negotiations and treaties?

It is still too early to give definitive replies to any of these questions, but the best tentative answers seem to be the following ones:

a Yes, while the early models of non-offensive defence can be very easily criticized, there are now more sophisticated and pragmatic models that appear militarily feasible;

b Yes, there are some models that seem to have few noxious side-effects. The most important risks consist in engendering a new race in military technology (which might also engender new offensive options) and in piling more defensive resources on top of existing offensive ones rather than in gradually substituting the former for the latter;

c Yes, there are models that have been cost-assessed and found to be equal to or—in the long run—cheaper than the present defence structures;

d The advantage of non-offensive defence is that it permits at least some unilateral steps to be taken without loss of military security. At the same time, more encompassing changes are probably best undertaken when accompanied by consultations and negotiations between the blocs.

Conclusion

Even in a cautious assessment, there are some signs of a possible breakthrough in ongoing efforts, especially in the Vienna negotiations on conventional forces in Europe (CFE), and of this being in part a result of increasing acceptance on both sides[8] of the ideas behind non-offensive defence. The unilateral reductions announced by the Soviet

Union seem to indicate that the negative side-effects of "mutual" are not of an "ironclad" character. The acceptance of the principle of asymmetric reductions do the same thing for the "balanced" clause, and indicate that the parties are now prepared to interpret the term in a more sophisticated and pragmatic manner. The acceptance of much more extensive verification measures than before indicates that this issue area may constitute less of a stumbling-block than before.

It remains to be seen what mix of agreed and unilateral arms reductions and transarmament comes out of the ongoing negotiations. There seems to be agreement to start with arms reductions and leave transarmament into non-offensive defence structures until the later phases. (This, in itself, is interestingly at odds with some of the theorizing on non-offensive defence, where one major point is that transarmament first would make reductions more feasible later.) There is one major argument why it is important that such agreements on transarmament take place as quickly as possible. The present breakthrough in negotiations is obviously greatly helped by the improvement in the "international climate". History seems to show, however, that "climatic waves" are shorter than waves in military technology and planning and that the arms control results obtained in earlier positive phases have been quickly eaten up or made irrelevant when the climate has worsened again. One main reason for this has been that, with the return to a worse climate, "worst-case logic" has become more forceful again and its premises have been only marginally affected by the previous results in negotiation. If the arms reductions presently being negotiated are quickly followed by agreements to transarm in the direction of non-offensive defence while the climate for negotiations is still good, then the result will be more robust. Even if the climate changes again and "worst-case logic" becomes more forceful, the premises for it will have been ameliorated by the structural changes and that logic will therefore have less harmful effects than it would otherwise have. At the same time, such structural changes would also make changes in climate less likely and milder, precisely because they would reduce the element of threat perceptions that is one important determinant behind such changes.

References

1. See, e.g., my article "The security of small nations: challenges and defences" in *Journal of Peace Research*, vol. 24, No. 4 (December 1987), pp. 348ff.

2. Two types of reservations can be made here. Whereas the main result of the studies that have been made is that the net effect of military expenditures is to depress national economies, it is also possible that they can stimulate them under certain circumstances. This is argued in theoretical terms in Mary Kaldor's *Baroque Arsenal* (London, Abacus, 1983). A recent overview of empirical results is found in the article by Karen Rasler and William R. Thompson entitled "Defense burdens, capital formation and economic growth" in *Journal of Conflict Resolution*, vol. 32, No. 1 (March 1988), pp. 61-86. Secondly, we should be under no illusion that savings in military budgets will automatically reappear in national or international development budgets; this is very much a matter of political will and decisions. See, e.g., Inga Thorsson's "Ways and means to generate the political will" in *Disarmament and World Development*, Richard Jolly, ed. (Oxford, Pergamon, 1978), pp. 93-103.

3. For a review of the literature and more detailed assessments, see my article "Arms races—why worry?" in *Arms Races: Technological and Political Dynamics*, Nils Petter Gleditsch and Olav Njolstad, eds., (London, Sage, 1989), pp. 352-375.

4. They are summarized in my article "Arms races, formal models and quantitative tests" in Gleditsch and Njolstad, *op. cit.*, pp. 32-57.

5. *Ibid.*

6. This notion or versions of it appear under many different terms, such as "non-provocative defence", "benign defence", "defensive defence", "structural inability to attack" (to make a rough translation from German), and so forth.

7. For a very thorough presentation of the debate in the Federal Republic of Germany, see Bjorn Moller, *Resolving the Security Dilemma in Europe: The Debate on Non-Offensive Defence in the German Federal Republic* (Copenhagen, Centre for Peace and Conflict Research, 1989), 405 pp.

8. Until now primarily in the Soviet Union. In doctrinal terms, the introduction of notions of non-offensive defence has taken place in parallel with a rather drastic reassessment of reasonably conceivable scenarios, i.e., weeding out some of the "worst cases".

Space Technology—Security Related Developments

Paul B. Stares

Space Technology—Security Related Developments

Paul B. Stares

Space is not an area that many would consider "militarized" in the conventional meaning of the term. There are currently no weapons orbiting Earth or military forces permanently stationed in space. Even the satellites that are regularly launched by both super-Powers for military purposes seem benign and inoffensive in character. Apart from the fact that they do not possess the means to attack other objects in space, military satellites—especially those used for early warning, reconnaissance, and communication—are also widely perceived to enhance international peace and security. By supplying the super-Powers with accurate information on the military activities of each other as well as timely warning of an attack and reliable conduits for crisis management, satellites support deterrence, arms control verification and strategic stability in general.

While satellites will continue to play this role, the military use of space is nevertheless undergoing a fundamental transformation in two major respects. First, military satellites are becoming increasingly useful as warfighting aids for terrestrial armed forces. Virtually every type of military operation from small conventional conflicts to strategic nuclear war is now likely to involve the use of satellites in some significant way. For example, reconnaissance satellites are being used more and more to detect, track and target

Paul B. Stares is a Research Associate in the Foreign Policy Studies Program at the Brookings Institution, Washington, D.C. This paper is based on a talk given to the Swiss Federal Institute of Technology, Zurich, on 27 May 1987, which draws on parts of his book *Space and National Security* (Brookings).

military forces such as naval ships; communication satellites can immeasurably increase combat effectiveness by the rapid and reliable distribution of military information; and navigation satellites can actively guide even the "dumbest" munitions to their targets with near-perfect precision. New military space systems will strengthen this trend still further. The growing military applications of space systems have understandably increased the incentives to deny their benefits to an adversary in wartime. At the same time they have also increased the incentives to protect satellites from attack. The USSR has already deployed an anti-satellite (ASAT) weapons system and the United States has one in an advanced stage of development. If present trends continue, it is unlikely that satellites will operate without challenge in wartime, at least in conflicts where the super-Powers are directly involved. This is the second basic trend.

Space may not remain a sanctuary from future conflicts in another respect. The Strategic Defense Initiative (SDI) launched by President Reagan in the now famous "Star Wars" speech of March 1983 has also raised the prospect that ballistic missile defence (BMD) systems will be deployed in space. Using space to defend against a ballistic missile attack has some major attractions. In particular, it makes it possible to intercept missiles during their initial ascent (the so-called boost phase), when they are relatively vulnerable and before their multiple warheads have separated from the booster. Subsequent layers of intercept systems further increase the chance of a successful defence. In the future, space platforms may also be used to launch attacks against targets on Earth. Both these possibilities are guaranteed to spur ASAT weapons development still further.

The changing nature of the military use of space is the subject of this paper. It will review both the peacetime and growing wartime uses of satellites as well as the potential development of space weaponry.

Peacetime Operations

In peacetime, military satellites serve several important functions. They are vital to the super-Powers' intelligence gathering and arms control monitoring effort, help in the management of international crises, facilitate war planning, and are relied on to provide the earliest warning of attack. Each will be discussed in turn.

Intelligence gathering and arms control monitoring. Reconnaissance satellites have become the most reliable and productive source of intelligence for both super-Powers. Photo-reconnaissance satellites return images of areas of the globe that, for all practical purposes, are not open to inspection by other means. Each side can monitor the other's military forces and weapons systems to gauge their capabilities and plan accordingly. The same space systems are also used to monitor compliance with arms control treaties. If a violation of a particular agreement is suspected, coverage by photo-reconnaissance satellites can be increased to collect more evidence. SIGINT (Signals Intelligence) satellites are also valuable aids to verification. Intercepted telemetry signals from ballistic missile tests, for example, provide evidence of the range, payload, throw-weight, accuracy, and number of warheads carried by a new missile. The United States also uses special nuclear explosion detection sensors aboard its DSP (Defense Support Program) early warning satellites and Navstar navigation satellites for monitoring compliance with the partial test-ban Treaty and the nuclear non-proliferation Treaty. Given the closed nature of Soviet society, the United States is plainly more dependent than the Soviet Union on reconnaissance satellites for intelligence gathering and arms control verification. However, the Soviet analysts also need photo-reconnaissance satellites for observing activities in China, for strategic targeting purposes, and for corroborating intelligence obtained from other sources. While large quantities of information are available from the United States press and from Congressional hearings, highly classified United States military facilities can be inspected only from space. Moreover, the Soviet Union has a greater dependence on photo-reconnaissance satellites for monitoring activities in remote parts of the world, since the United States has more alternative sources such as SR-71 and TR-1 reconnaissance aircraft, which operate long-distance with inflight refuelling or from United States bases around the world. Although the Soviet Union also has long-range reconnaissance and SIGINT aircraft, these are generally considered inferior to their United States counterparts and do not have access to as many foreign bases.

War planning. Photo-reconnaissance satellites are the principal source of information for strategic war planning by the super-Powers. Without precise information on the location of targets such as missile silos and command centres, counterforce operations would not be possible. The mapping of the Earth's gravitational field by geodetic satellites is also essential for targeting ballistic missiles, while the guidance of United States strategic cruise missiles relies on digital topographic data derived from satellite imagery.

In similar fashion, both super-Powers use SIGINT satellites for determining the locations of radar systems, particularly mobile systems, for targeting in wartime, and for measuring the frequency, strength and other characteristics of radar signals for electronic countermeasures (ECM) such as jamming and "spoofing". This helps bomber and reconnaissance aircraft to plan their penetration routes into enemy airspace and suppress the defences they encounter.

Crisis management. Reconnaissance satellites are invaluable for monitoring events or conflicts that threaten global or regional stability, particularly where the use of aircraft is difficult for geographical, logistical or political reasons. The Soviet Union in particular has come to rely on satellites for observing third world conflicts, as indicated by the frequency of launches during some crises and the adjustment of satellite orbits to increase the coverage of crisis areas.

Communication satellites are also increasingly relied on by the military to direct and control their forces during international crises. Similarly, the United States State Department relies heavily on the Defense Satellite Communications System (DSCS) for communications with its embassies abroad, and the North Atlantic Treaty Organization (NATO) has developed its own communication satellites to link alliance capitals and military command centres. Satellite links were also the obvious technical solution for modernizing the United States-Soviet hot-line.

Early warning. In a serious crisis involving the superPowers, reconnaissance satellites are likely to provide the earliest indications that military operations are being considered. The dispersal of bombers and theatre nuclear forces from their peacetime bases, the "flushing" of strategic submarines from port, changes in communication patterns, and the general mobilization of conventional forces would be indicators that could be detected by reconnaissance or SIGINT satellites. Signals intelligence could provide the only warning if images were unavailable for climatic or other reasons.

Ballistic missile early warning satellites, on the other hand, would provide positive evidence that an attack had started. These satellites are expected to give up to 25 minutes warning time before the attacking intercontinental ballistic missiles (ICBMs) hit their targets, and somewhat less in the case of submarine-launched and intermediate-range missiles.

In addition to these four main missions, satellites provide general support for peacetime military operations through weather forecasting, navigation and communications.

Wartime Support Operations

Naval operations. Naval forces have probably been the greatest beneficiaries of military satellite support, with important services being provided by ocean reconnaissance, communication, navigation, and meteorological satellites.

For well over a decade the United States and the Soviet Union have employed satellites for ocean reconnaissance. The United States appears to use its satellites primarily for monitoring the world-wide deployment of naval forces. The Soviet system, in contrast, appears specifically designed to help prevent United States naval forces, especially carrier groups and attack submarines, from coming within striking range of the Soviet homeland in wartime. The Soviet radar and electronic ocean reconnaissance satellites would detect and track the movement of United States naval forces towards the Soviet Union, and then pass this information on to aircraft and submarines for targeting purposes.

Communication satellites, for the United States in particular, have become virtually indispensable for naval operations. According to one report, the United States Navy now relies on satellites for 95 per cent of its messages. Special terminals are fitted to all of the Navy's major surface ships, submarines, P-3C Orion aircraft, and shore stations around the world. The rapid collection, collation, analysis and dissemination of information from sensors around the world has also immensely facilitated the tracking of Soviet submarines.

Although the extent to which satellite receivers have been deployed throughout the Soviet fleet is unclear, it is known that certain warships and auxiliaries have been fitted with satellite antennas to serve as command centres afloat. Soviet ballistic-missile submarines (SSBNs) and nuclear attack submarines (SSNs) are also known to employ satellite terminals.

Naval forces, particularly submarines, have also been the principal beneficiaries of navigation satellites. The provision of common positioning information to ASW (anti-submarine warfare) aircraft, helicopters, surface ships, amphibious forces and other weapons platforms is expected to improve dramatically the efficiency of such missions as sonarbuoy and mine emplacement, mine clearing, and amphibious deployments, as well as naval air operations.

Finally, naval forces are among the largest users of information derived from meteorological satellites. Timely and accurate forecasts, particularly of adverse weather, are essential for naval operations. While the majority of weather reports are transmitted from shore facilities via communication satellites, the navy is also fitting DMSP (Defense Meteorological Satellite Programme) satellite receivers aboard its major aircraft carriers to provide weather data directly. Presumably, the Soviet navy derives similar benefits from the Meteor satellites, though the extent to which surface ships receive data directly from these spacecraft is unclear.

Of equal importance to naval operations is the data supplied by oceanographic satellites. Information on ocean conditions is important for sonar operations and interpretation and for optimum use of weapons. Wind speed measurements will help in the prediction of ambient noise and improve the accuracy of sonar readings, while information on the thickness of ice cover can help determine likely enemy surfacing locations. The same information can also be used by submarines to evade detection, for example, by locating ocean eddies that can hide submarines from sonar detection. Again, the existence of Soviet oceanographic satellites indicates that their navy finds these data useful for similar reasons.

Air operations. For air forces, images from reconnaissance satellites are useful for planning ground attack and long-range interdiction strikes. Timely and accurate weather information from meteorological satellites is used to schedule missions, determine the best route to approach a particular target, from what altitude, and sometimes even what type of weapons to use. As a result, the United States Air Force and Marines are procuring new transportable and rapidly deployable terminals for receiving DMSP weather data. The Soviet Union probably finds meteorological satellites equally useful for the same reasons.

A major advance in the use of satellites in United States air operations will come with the full deployment of the Navstar Global Positioning System (GPS). In tests using the partially deployed system, helicopters have made blind landings within several feet of a designated spot; jet fighters have linked up with tanker aircraft for inflight refuelling; cargo aircraft have parachuted supplies within forty feet of a ground marker; and fighter-bombers have delivered conventional "iron bombs" to their target with the precision of "smart" munitions. In wartime, the efficiency of bombing operations is likely to improve significantly. Some predict that for close air support operations and long-range interdiction of ground targets, the "kill probabilities" could improve by several orders of magnitude.

Scant information is available on how the Soviet Union intends to employ its counterpart navigation satellite system in wartime, but given its similarities with Navstar, one can expect that it will be put to the same use.

Ground operations. Ground forces have probably been the last of the armed services to benefit from satellite support. This is now changing, however, as reconnaissance, communication, and navigation satellites begin to play a larger role in aiding land operations.

The use of reconnaissance satellites in wartime has traditionally been limited by the delays in acquiring and interpreting data and forwarding information to field commanders. However, new United States photo-reconnaissance satellites will probably be able to down-link imagery directly to senior field commanders for battle management and the targeting of enemy forces. The ground forces, however, will receive only intermittent ''snapshots'' of the battlefield; continuous real-time surveillance of events will not be available for the foreseeable future.

It appears that Soviet use of digital transmission of reconnaissance data is relatively new, and it seems likely, therefore, that the United States is ahead in the use of reconnaissance satellites for tactical purposes.

The advent of small transportable satellite communication terminals and even back-pack radio transceivers, particularly for United States forces, has permitted an unprecedented degree of control over military operations. The adoption of small portable or easily transportable terminals by Soviet ground forces does not seem so widespread, which may reflect less advanced technical capability and, to some extent, Soviet command style. Nevertheless, the use of communication satellites by Soviet forces is becoming more evident, with terminals at army group and divisional headquarters.

When the United States Navstar GPS system becomes fully operational, United States ground troops will gain access to satellite navigation. Besides allowing ground forces to navigate better, particularly in desert and jungle areas, it should also improve the accuracy and co-ordination of artillery barrages, air support and parachute supply drops.

Nuclear operations. For planning a co-ordinated attack against an opponent's strategic forces, photo-reconnaissance and SIGINT satellites would be used to detect and target ICBM silos, bombers, submarines in port, and fixed command and control centres and even mobile command centres. Since the accuracy of ballistic missile warheads can be adversely affected by wind and rain, up-to-date satellite observations of the weather over the target area would be critical for modifying their guidance systems. Bomber crews would also need to take into account the weather en route to their targets. Ballistic-missile submarines would obtain last-minute position fixes from navigation satellites to update the inertial navigation systems of the missiles, and strategic bomber and tanker aircraft would also use satellite navigation in their missions. Valuable though satellites would be in supporting a first strike, they would not permit a fully disabling attack. Deployed submarines still remain undetectable from space, and dispersed mobile ICBMs will also be extremely difficult to find.

Satellites are expected to play a major role in assisting retaliation, however. The earliest confirmation of an attack would be provided by early warning satellites, allowing the option of launching a retaliatory strike before the arrival of the attacking warheads. At the very least, vulnerable strategic forces like bombers, tankers, and airborne command posts could be sent aloft to avoid immediate destruction. The early warning satellites could also indicate the general size of the attack, the approximate launch sites, and the types of missiles used. This knowledge could be useful for helping decision makers discern the purpose of the attack, especially if it is a relatively limited strike, and for deciding on the most prudent response. Locating the source of the attack would also provide information for targeting the adversary's remaining ICBM forces.

The space-based United States Nuclear Detection System (NDS) would complement the data supplied by the DSP early warning satellites, for example, by detecting the detonation of Soviet SLBMs up to 20 minutes before the arrival of the more accurate "silo-killing" ICBMs. The United States leadership would thus have confirmation of an attack before making the dangerous decision to save the threatened ICBMs by launching them promptly. The NDS would also indicate areas that had escaped destruction so that bombers, tankers, and command post aircraft could be directed to them.

Finally, communication satellites would be used along with other systems to set the retaliatory strike in motion. The United States has AFSATCOM (Air Force Satellite Communications System) terminals to receive launch orders aboard all the airborne command posts, on strategic bombers, on KC-10 tankers and at all Strategic Air Command posts and missile launch control centres. In the future, the Milstar system will provide strategic command and control links both during and after the attack. Soviet strategic forces are presumably connected in a similar way.

Space Weapons

The growing importance of space systems for war planning and operations has increased the incentives to deny their benefits to an adversary in wartime. There are three principal ways to accomplish this: first, the satellite itself can be attacked; second, the communications links with a spacecraft can be disrupted by electronic interference; and third, the ground stations that control satellites and receive data from them can be attacked. The launch facilities necessary to replace satellites lost to enemy action in wartime are similarly vulnerable.

There are advantages and disadvantages associated with each of these approaches. Destroying satellites may be more direct and less escalatory than attacking ground facilities, in part because this method would not involve loss of life, but depending on the nature and context of the attack, such action could be viewed as an unambiguous signal of attack and be highly escalatory. The destruction of an early warning satellite during the conventional phase of a super-Power conflict, for example, would surely be interpreted as a prelude to a nuclear strike. Furthermore, the attack would accomplish little if the destroyed satellite were promptly replaced by a spare satellite already in orbit or one prepared for immediate launch. Interfering with a satellite's communications links might be less inflammatory but would lack the certainty of success of more direct ASAT attacks. Spoofing (feeding false information to the satellite) might be more productive than outright attack and might be accomplished covertly in isolated instances. Destruction of satellite ground facilities would be effective, but short of a nuclear exchange, would not be attractive because of the obvious risk of escalation. Possible exceptions would be attacks against installations located outside the homeland and sabotage by special forces. The impact of such attacks would again depend on the level of redundancy and the time taken to regain control.

For each of these methods of disabling or otherwise interfering with the operation of a space system there are a variety of countermeasures.

While both super-Powers have developed weapons to attack space systems, only the Soviet Union has an operational dedicated ASAT anti-satellite system. The Soviet ASAT system is called a "co-orbital interceptor", since it is launched into the same orbital plane as the target satellite. After one or two orbits, the interceptor satellite is manoeuvred into the vicinity of the target, a radar or infrared guidance system then draws the interceptor still closer to its prey, and an explosive charge is detonated, sending a cloud of shrapnel to disable the target. The interceptor satellite has been tested against targets on at least 20 occasions since 1968, most recently in June 1982. Of these, half have been judged failures. Since 1982, Soviet leaders have declared a moratorium on all further tests and have also offered to dismantle their system as part of a general space weapons ban.

Although its wartime effectiveness cannot be dismissed, the Soviet ASAT system does suffer from significant operational limitations. It appears capable of attacking only satellites in low earth orbit (below 5000 km), which leaves the vital United States early warning and communications satellites beyond its reach. It also does not appear configured for high-intensity ASAT operations since there are apparently only two launch pads dedicated to the ASAT mission. As the interceptor satellite must be launched into the same orbit as the target, it can be launched only when the launch site is under the target's orbital path, thus limiting the number of intercept opportunities each day against any given satellite.

Following a congressionally imposed moratorium on testing that began in 1986, the United States abandoned the further development of an air-launched ASAT system in 1988. Funds are being sought, however, for several different ASAT projects.

Many of the key technologies for ASATs are also being studied for possible use in ballistic missile defence (BMD) systems. Since ICBMs and SLBMs travel through outer space during their ballistic trajectories, reaching altitudes up to 1000 km, the development of prototype BMD systems is likely to produce effective anti-satellite weapons long before the more complex strategic defences—even in their most limited form—become attainable.

BMD sensors and weapons that could have ASAT applications include both space-based systems to detect, track and intercept missiles in the early phases of their flight, and ground-based systems to track and intercept missiles during the terminal phase. Sensors that have been proposed for BMD systems include space-based sensors to track missiles and warheads during the boost and mid-course phases, neutral particle beam generators to help discriminate between warheads and decoys, and rocket-launched sensors and ground-based radars for the terminal defence phase. The weapons that are currently in vogue with SDI planners include space-based kinetic kill vehicles sometimes called "smart rocks" or "brilliant pebbles", ground-based lasers with space-based mirrors to redirect the beam to distant targets, and ground-based rocket interceptors.

Such a complex system faces enormous challenges. It is necessary not only to detect, track and intercept a ballistic missile in flight, but to do so while the offender does everything possible to complicate the task. And even in the absence of countermeasures, the task would be enormous. Many hundreds if not thousands of attacks would have to be coordinated by a computer-aided battle management system. Moreover, the system would have to function reliably without any realistic testing or training, since it is impossible to simulate the conditions of a full-scale nuclear attack.

In the presence of countermeasures, the defensive task becomes awesome to say the least. Possible countermeasures include increasing the number of warheads or decoys, using fast-burn boosters to reduce the time for boost-phase attack, and hardening the surface of the missiles. An alternative or complementary strategy would be to attack pre-emptively the space-based elements of the BMD system using ASAT weapons. Because of these difficulties, most analysts remain profoundly skeptical of the feasibility of deploying an effective BMD system.

Conclusions

The military use of space is on the verge of a dramatic transformation which presents policy makers with major dilemmas. The role of military satellites is changing in a fundamental way as they become increasingly useful for enhancing the combat effectiveness of armed forces. While this increases the incentives to develop ASAT weapons to attack them in wartime, it also means that the security of each side's satellites will become threatened. Neither super-Power is likely to maintain the security of its own satellites against determined attack. Although there are a variety of ways to protect satellites, ensuring their survival will become increasingly expensive and difficult if ASAT development remains unconstrained.

This raises the question of whether it would be better to limit the development of ASAT weapons and live with the presence of military satellites, or alternatively pursue ASAT development and risk the destruction of space systems in wartime. For the United States, with a greater overall dependence on satellites, the benefits of a ban or limitations on ASATs would appear to outweigh the costs. Moreover, since the possible loss of early warning and communication satellites to ASATs could inject dangerous uncertainties into the strategic calculations of both sides during a major crisis, there are added reasons to favour arms control over unconstrained ASAT development.

Controlling ASAT weapons, however, creates new dilemmas. In particular, if ASAT arms control is to be meaningful, constraints must also be placed on BMD systems, at least on those capable of intercepting targets outside the atmosphere, since otherwise an ASAT agreement could be easily circumvented and rendered meaningless. Thus ASAT limitations demand much more than just restricting ASAT weapons.

For those who consider that further constraints on BMD research and development—in addition to those contained in the 1972 ABM Treaty—may be too high a price to pay for ASAT arms control, it is appropriate to review what is likely to result from SDI. The prospects for a comprehensive population defence are extremely remote. While some argue that partial BMD would strengthen deterrence, the uncertainties associated with executing a nuclear attack and the presence of invulnerable second-strike forces based on submarines makes nuclear deterrence already extremely robust. Even if the growing vulnerability of land-based deterrent forces to a first strike needs to be redressed, it seems likely that this could be achieved more effectively through such options as super-hardening, deep underground basing and mobility, rather than through active defences. The deployment of limited BMD systems may actually destabilize the situation by encouraging additional strategic *offensive* deployment by the adversary. As former United States Secretary of Defense Harold Brown said about SDI, ''What is desirable is not feasible and what is feasible is not necessarily desirable''.

Multilateral Confidence-building Measures and the Prevention of War

Selected papers presented at the
United Nations Regional Seminar for
the World Disarmament Campaign,
held at Kiev, Ukrainian SSR,
4-7 September 1989

Notes by the Chairman
Derek Boothby

Multilateral Nuclear Diplomacy
Paul Bracken

Towards a New Model of Security
Andrey V. Kozyrev

The Risks of Offence-Dominant Force Structures and Strategies
Andrew Mack

The Impact of East-West Confidence-building Measures on Global Security: A View from the South
Fernando Simas Magalhaes

Notes by the Chairman

Derek Boothby

We are living in historically unusual times. Just 50 years ago a war began in Europe that had effects in almost all parts of the world and eventually consumed over 50 million lives before ending in 1945. Since then, for over 44 years the continent of Europe has been spared the scourge of war. Those 44 years have not been easy, and there have been occasions when the absence of armed conflict between nations has not necessarily meant peace. All too often confidence and trust have been lacking.

Even so, one has to look back a very long time to find a similar period in Europe when there was a prolonged absence of war. Furthermore, with the major developments of the past three or four years, I believe that it is true to say that the man or woman in the street is probably of the opinion that a major nuclear exchange, launched as a deliberate act, is less likely now than at any time in the past 20 years or more. Bilateral relations between the super-Powers have improved immeasurably, and in their wake the development of regional measures within Europe is proceeding apace.

So much for the good news. It is not, however, the whole story. There are other, disturbing factors that should cause us to feel less self-satisfied.

The world's nuclear arsenal among the five declared nuclear-weapon States still amounts to over 50,000 nuclear warheads. The USSR-United States Treaty on the elimination of their intermediate- and shorter-range missiles (INF Treaty)

Derek Boothby, a Principal Officer in the Department for Disarmament Affairs, chaired the seminar. This article is largely based on his opening and closing remarks.

did not result in the decrease of fissile materials, as such, and the strategic arms talks between the Soviet Union and the United States—although they are well advanced—have not yet produced real results. In the mean time, other nuclear-weapon States are in the process of increasing their nuclear capabilities and elsewhere weapons systems are becoming evermore technologically sophisticated. This is occurring at different levels, but in a broad sense across the whole range of military developments. At one end of the scale, advanced weapons are being either acquired or developed indigenously by some countries whose control arrangements may be insufficient during times of regional tension. At the other end of the scale, the development and activation of highly advanced computer systems, side-by-side with shorter warning times and significantly reduced periods for political decision-making, are creating new concerns at the possibilities of accidental, unintentional or inadvertent war.

Finally, there is also the functioning of what is often referred to in English as "Murphy's Law". In its simplest form the term "Murphy's Law" is used to describe one of the unerring lessons of life: namely, that despite the best of human efforts to prevent failure, whatever *can* go wrong, sooner or later probably *will*. Instances are all too many: Chernobyl, the Challenger space-shuttle, the Bhopal chemical plant in India, the train disaster in Bashkiria, USSR, the Exxon Valdes oil tanker in Alaska, United States, and numerous other accidents caused by technical failure or human error, from which no part of the world is free. None of these accidents should have happened but they did. Despite the existence of procedures designed to prevent human misjudgement or technical breakdown, modern life presents an almost endless list of disasters that have resulted in heavy loss of life or damage to property. Some have been natural disasters, but all too often human error or technical faults, or both, have been primarily responsible.

Given the nature of modern instruments of war—nuclear, chemical and conventional—and the pressures involved in political and military decision-making, why should we assume that those areas are insulated from accident or misjudgement? Notwithstanding the added precautions that are often in operation in the command and control of weapons systems, are they really sufficient? How can we be sure that the chances of disaster can be reduced to the absolute minimum, bearing in mind that even if the risk of the outbreak of war is very small, the consequences could be very much greater than the limited nature of the examples described above?

Recognizing the existence of such questions, and the dangers to world peace in certain circumstances, in recent years the USSR and the United States have established a number of bilateral arrangements to reduce the risks of misunderstanding in times of crisis or accident. To a very limited extent, certain other arrangements exist between other countries.

However, a number of commentators have pointed out the urgent need for improved multilateral arrangements. At the United Nations, there has been a growing recognition of the almost complete absence of multilateral measures to create a better sense of mutual confidence and to lessen the risks of war.

This seminar was one of a series of meetings held in conjunction with an extensive study of the multilateral means of reducing the risk of war undertaken by the Program for International Security and Arms Control of Yale University, United States. Complementing the discussions that took place in Kiev are seminars in other cities on the desirability of multilateral war-risk reduction centres, innovative forms of peace-keeping to meet future needs and the role of the Security Council in preventing conflict in a changed and still changing world environment.

The objectives of this seminar were threefold: first, to explore the nature of these problems in a multipolar world with military Powers of different strengths, some of whom possess nuclear arms; secondly, to assess the value, feasibility and organization of appropriate mechanisms and confidence-building régimes; and thirdly, to consider whether there is anything that the United Nations could, or should, do to improve the situation.

During the seminar considerations ranged over the kinds of situations that might arise in a world in which not just the United States and the Soviet Union but also the three other nuclear-weapon States and perhaps several other countries might have nuclear weapons; the pressures on decision-making caused by the complexity and speed of present-day war technologies; the possibilities of regional conflicts and the danger of escalation to a global level; the destabilizing nature of certain offensive weapons or deployments; the value and nature of confidence-building measures between States, and the need for such measures in various parts of the world; the complexity and high costs of developing stable nuclear-weapons systems and procedures that do not lend themselves to accident or misuse; and non-proliferation issues.

In all these issues participants attempted to explore the multilateral dimension, partly because that is the aspect that the United Nations is designed to address, and partly because they recognized that we are living in a dynamic, changing world which seems likely to be very different from the one we have known in the past 40 years.

In recent years the Secretary-General has consistently emphasized that the first function of the United Nations in international security is to prevent war from breaking out.

He has pointed out that recent serious crises have indicated the need to take timely and effective multilateral action before problems reach crisis proportions. To continue in the future to fail to utilize fully all the preventive capacity of multilateral organizations, he has said, would be foolhardy in the extreme. He has suggested that the Security Council should make fuller use of possibilities available within the meaning of the Charter to head off violence and facilitate the resolution of disputes *before* armed conflict occurs.

It is to that end that, with the help of the study being undertaken by the Yale University Program for International Security and Arms Control, ideas were put forward at this seminar on the desirability and practicability of establishing multilateral war-risk reduction centres and a multilateral nuclear alert centre.

The reactions to and comments received on those ideas will be of considerable value. It is not surprising that the ideas met with a somewhat mixed welcome—innovative suggestions usually do. It should not be forgotten that peacekeeping is not mentioned at all in the Charter of the United Nations and it, too, was resisted when it was first introduced as an idea, yet it has become recognized as a unique, valuable and highly successful instrument of the United Nations.

The discussions of confidence-building measures and the prevention of war revealed wide differences of perception, often closely related to the particularities of regional context. The circumstances applicable, for instance, in Europe are not repeated elsewhere and so solutions relevant in Europe are not necessarily applicable to regional situations in other parts of the world. However, the issues have multilateral dimensions which are quite outside the straightforward bilateral concerns of the Soviet Union and the United States. It is to be hoped, therefore, that the exchange will only be one of several that will enable the United Nations to develop its capacity to respond in appropriate ways to the task of taking collective action to maintain international peace and security.

This seminar would not have been possible without the generous support and unfailing assistance of the authorities of the Ukrainian SSR, the Ukrainian Peace Committee and the Soviet Peace Committee. On behalf of the United Nations in general and Mr. Yasushi Akashi, the Under-Secretary-General for Disarmament Affairs, in particular, and on behalf of all participants, I wish to record my very deep appreciation for their help.

Multilateral Nuclear Diplomacy
Paul Bracken

The existence of several nuclear States in addition to the United States and the Soviet Union creates new uncharted security problems. While there is much discussion of the growing uselessness of nuclear weapons, and even some belief that we are about to enter a post-nuclear world, the facts suggest something quite different.

Broadly speaking, two directions of research and discussion can be followed in thinking about all this. First, at a structural level the international system appears to be evolving into one where several States possess nuclear weapons, and where this is a more or less accepted part of the system. The geopolitics of a great-Power system built on nuclear deterrence, but where lesser Powers also have nuclear weapons, has received scant attention.

A second line of study is more tactical. It focuses on how crisis management, paths to war, and accidental and inadvertent actions might precipitate or worsen conflict. Are crises involving more than two States somehow harder to control than "ordinary" Soviet-American crises? How might confidence-building measures worked out for two nuclear Powers function in a multi-nuclear world?

It is useful to define a "nuclear State" in this discussion as one that has its own nuclear weapons or those of another nuclear Power stationed on its territory (the case of the two German States). Even States that do not have any atomic weapons on their territory can be considered nuclear States if their alliances, geographic position, military in-

Paul Bracken is a Professor of Public Policy and Political Science at the Yale School of Organization and Management, United States.

frastructure, or history put them in a cross-fire during a crisis. For example, country X may have tested a bomb, and this may create strong suspicions that it has developed a covert arsenal of nuclear weapons. This history may cause opponents to launch a pre-emptive attack on country X in a crisis in anticipation of its potential nuclear retaliation even if, in fact, it has no nuclear weapons.

Nuclear Multipolarity

The phrase "multipolar world" is often advanced to describe world power relationships as they are evolving towards the year 2000. The metaphor of a multipolar world connotes images of the balance of power in Europe in the nineteenth century. In the modern version, the great Powers are anticipated to be the United States, the Soviet Union, China, Japan, and an integrated Western Europe.

After World War II, the United States created a coalition to respond to the threat of Soviet aggression. First the United Kingdom and then France developed independent nuclear capabilities. Initially the United States had mixed views about the impact of this on international stability. Secretary of Defense Robert McNamara argued in his famous Ann Arbor speech in 1962 that independent nuclear capabilities not under American control were a bad thing, because they introduced too much uncertainty into the security situation. Specifically, McNamara argued that strategic uncertainty about the behaviour of independent forces could act as a wild card or even as a catalyst to escalation at a time of crisis.

When China "went nuclear" in 1964, another independent arsenal came into being. At first, the Chinese threat was considered to be directed against the United States, and in fact was the justification of President Johnson's anti-ballistic missile programme. Later, however, the Chinese force was seen to have desirable effects for American security.

The United States eventually understood that it was the beneficiary of these new, independent forces because they all helped to contain Soviet power. The evidence for this is now overwhelming. Washington's sharing of design technology with the French, its open support of the British force, and improvement of relations with the Chinese may have started out for different reasons, but all these elements worked to encircle the Soviet Union with nuclear States.

If one takes a realist's view of the international system, it is hard to see how much of this could be reversed in the future. The French and British, for example, have been willing for decades to drastically reduce their conventional forces while expanding their nuclear arsenals. Economically, it can be shown that these forces are "cheap", certainly compared to conventional forces, but even relative to countries with a GNP of $.6 to 1.0 trillion. Domestic politics in each of these nations is different, but both point to almost no policy reversal on the nuclear question. It is now hard to see how the United Kingdom could abandon its nuclear forces even if a unilateralist opposition party came into office. Quite aside from military issues, London would have to consider the consequences of having France as the only nuclear Power in an integrated Western Europe. With major strategic questions looming in the future (such as the German question, the restructuring of the North Atlantic Treaty Organization (NATO) and European defence, and relations with the Eastern bloc), London would lose a great deal of clout on these matters if its nuclear force were abandoned.

In East Asia, China shows only signs of expanding its nuclear forces. Beijing faces an uncertain relationship with the United States and, in addition, several potential long-term threats. There is always the Soviet Union, but there is also Japan, which today has a not insignificant defence programme and is capable of doing much more if political conditions change.

It is true that the United States and the Soviet Union seem to be moving towards a treaty on strategic arms reductions (START) that could reduce the weapons in each arsenal by something like one third. Some commentators see this as a step towards the elimination of nuclear weapons altogether, or as a move towards a post-nuclear world. On the contrary, the view advanced here is that the Eurasian and global military balance is evolving into an interlocking multiple nuclear deterrent system.[1]

The essence of the problem of multilateral nuclear diplomacy and of multi-nuclear crisis management and confidence-building is thus structural. It is built into the international system at a deep level. In a certain way this makes more tactical questions of crisis management, avoidance of accidents, and co-ordination of rules of the road even more important, because of the inevitability of a more nuclear world. While there is a widespread sense that the cold war confrontation between the United States and the Soviet Union is ending in its classic manifestations of forward defence, "Pactomania" and American-led containment, the features of a multipolar nuclear world system have been harder to discern.

History can be a guide. Classically, a multipolar system, such as existed in the nineteenth century, has been good not at preventing war, but at preventing great-Power war. Small wars, in fact, were frequent in the nineteenth century. The problem with trying to carry over this feature of the system to the future is that "small" wars can be nuclear, because proliferation has not stopped with the great Powers. India has exploded a bomb, and suspicions exist about a number of other States. Insulating the security of the large Powers from that of the small Powers—something done so well in the last century—may be far more difficult an undertaking in the future.

In the nineteenth century treaties bound allies together. To hedge against the possibility that someone would go back on a treaty or to guard against secret agreements that would undermine security, large armies and navies were built. Today the United States is in a very different position. Significant United States forces are deployed on the territory of two of the new great centres of power, Japan and Western Europe. This reinforces confidence in the behaviour of the States concerned in times of crisis. It will be very interesting to watch American forward defence in the coming years. While some reductions may be anticipated, it may be that overseas deployments will be maintained even in the face of a declining Soviet military threat, both as a hedge against its return and as a mechanism to maintain United States leadership.

Another feature of a multipolar world is the extent of the integration of the security systems of the actors. In addition to diplomatic alliances, electronic alliances can bind States together. Through a network of complex command, control and intelligence systems, national bureaucracies can be tied together far more tightly than they can be diplomatically. Generally, these command systems are considered from the viewpoint of technical efficiency—whether data can be transferred or whether one system interferes with another. But large command and control systems are the ties that bind military establishments together. They focus expectations, distribute information that shapes political perceptions, and integrate the norms and standards of one military institution with another. Importantly, they also can check an opponent from taking undesired actions. Such integration is no guarantee of co-operation, but it is an important additional factor in forging an alliance into a meaningful whole. Without it, opportunistic behaviour is more likely, as demonstrated in the nineteenth century experience.

More Specific Considerations

The focus of this seminar is multilateral confidence-building measures and the prevention of war, and it therefore seems wise to survey some of the specific dangers that would accompany a world of multiple nuclear Powers, both small and large. Some of the new issues for crisis management and command and control that emerge from this are the following:

—Forced nuclear alerts. If the Soviet Union goes on alert in the Far East against the United States, for example, then so must China. While it is best to avoid such crises, it is also necessary for nuclear States to understand the consequences of their actions in brandishing their forces.

—Attack assessment. A bomb goes off, but it is not clear who fired it. This could be a special problem in a number of areas: in North-East Asia and the Korean peninsula or in Europe. Proposals have been made in the past for the super-Powers to put "signatures" on their weapons so that they can be identified, and this may make much more sense in a multi-nuclear world.

—Multilateral communication problems in crisis. The problem here may be less one of circuitry and bandwidth than one of information overload. A multilateral crisis management centre has been proposed in various quarters. This may make sense in helping to think through the problem, and it may be that such a centre would simply be an annual conference of experts and officials to discuss the problem.

—Increased chance of, or at least new kinds of, accidental war. Many experts have worried that an accidental nuclear detonation is more likely to come from one of the new States possessing these weapons than from the United States or the Soviet Union. It took many years for the United States to work out systems for personnel reliability and permissive actions links.

—More instability, e.g., incentives for pre-emption, defined here in the relatively narrow form of the reciprocal fear of surprise attack rising as more actors possess nuclear weapons. This is the case where States that are suspected of having weapons could draw fire from an opponent.

—More chance of catalytic war. This was an early theoretical fear in the nuclear age. Interest in it has pretty much declined in recent years, but it may come back as a danger with more States having nuclear weapons.

—A "successful" use of nuclear threats. Most of the time we think of the massive destruction accompanying any nuclear use. However, a more insidious problem might lie in a successful threatened use that reaped enormous gains for the side that threatened. This would be an object lesson to other States and might speed up proliferation incentives. Perhaps only an organization of the major Powers could act collectively to reverse the gains from such actions, although this would present large co-ordination problems of its own.

—Defence may look more attractive. An accidental launch protection system has already been advanced in the United States Congress, and with primitive threats, new support for concepts like the Strategic Defense Initiative (SDI) may increase. Moreover, as the warfighting image of SDI recedes, a new interest in strategic stability through defence may increase.

Dealing with these problems seems much more difficult than diagnosing them. But prescription is impossible without prior diagnosis. What this leads to is a proposal to first catalogue and discuss the issues, temporarily postponing solutions. Third parties might play a role, both in defining the problem and in offering insights into how a safe system could be worked out. One of the problems with complex issues is that experts can get too close to them, and fairly obvious points and ideas get lost. Third parties can bring a fresh perspective that is badly needed.

Where does this leave us? We can propose solutions that, at present, may not be feasible or may seem illusory and unrealistic. We can put the problem within a framework, something that is necessary before solutions emerge, or we can do nothing, and muddle through blind to the issues. But the time to focus on this problem is at the early stages, because the experience of the super-Power competition shows how difficult it can be to disentangle an arms race that has proceeded for decades. It could be a lot more important to structure this system in even small ways now than to try to undo large problems later.

Reference

1. I am grateful to Peter Wilson of the RAND Corp. for discussions on this point, and to some of his unpublished papers, including "Trans-century nuclear multipolarity: the rise of the rimland", May 1988.

Towards a New Model of Security

Andrey V. Kozyrev

I am honoured to welcome you who are participating in this widely representative international seminar that the United Nations is sponsoring within the general framework of the World Disarmament Campaign, and wish you effective and fruitful deliberations.

The fact that the seminar is attended by noted political, military and scholarly figures and leading officers of the United Nations Secretariat proves that the process of United Nations renewal is restoring the ability of this unique Organization to be at the centre of the co-ordination of the security interests of States.

The principles of new political thinking guiding our State's behaviour in international affairs have been approved by the Congress of People's Deputies of the USSR, the supreme governmental body in our country. High among them is the strategic principle of ensuring our State's security primarily by political means, relying on the authority and capabilities of the United Nations.

Rejection of dogmatic perceptions, responsibility in considering all developments in the international arena, and advance from confrontation to a thoroughgoing search for a balance of interests and ways to "de-ideologize", demo-

---

Andrey V. Kozyrev is Chief of the International Organizations Directorate of the Ministry of Foreign Affairs of the USSR. In preparing this paper for publication, the author took the opportunity to incorporate an observation concerning the high-level meetings that Foreign Minister Eduard Shevardnadze had in Washington and Wyoming in September 1989.

cratize and humanize relations among members of the world community are the distinctive features of the new Soviet approach to foreign politics, an approach that grows in an integral way out of *perestroika* and the related processes now going on within our country.

In its general form, our philosophical and conceptual vision of the problems central to modern times was presented in high relief by Mikhail Gorbachev in his address to the United Nations General Assembly at its forty-third session. His speech laid down a long-term foreign policy line that will seek to bring inter-State relations into harmony with the realities of an evermore integral and interdependent world, and ensure the concerted creativity and co-development of States as they build a peaceful period in human history—a goal which, we are sure, is feasible and realizable. At the same time, the Soviet leader's statement in the United Nations also invited our partners to internationalize the dialogue and the process of negotiations and to take without delay concerted action to strengthen international security in a comprehensive way.

New political thinking has made for a healthier international situation over the last few years and for decisive advances in strengthening security along the foremost line of its progress: the sphere of disarmament. The ongoing limitation of arsenals has become an essential component of the positive changes that have allowed us to push away the threat of war and shift the emphasis to co-operation, mutual understanding and negotiation.

In essence, we are all eyewitnesses of and participants in the ongoing process to develop a new model of security—one attained not by increasing armaments but, on the contrary, by reducing them in a mutually acceptable way, and based on strict observance of the Charter of the United Nations. The history-making Treaty on the elimination of intermediate- and shorter-range missiles (INF Treaty) is being implemented and physical destruction of the two classes of nuclear weapons addressed therein has commenced. Efforts to draft a convention banning and abolishing chemical weapons have entered the final stage. A great deal has been done towards concluding a treaty on 50 per cent cuts in the strategic nuclear weapons of the USSR and the United States while maintaining the anti-ballistic missile (ABM) Treaty. The outline of a common approach to the negotiations on the reduction of conventional forces in Europe is beginning to appear and moves are being made towards agreement on a new set of complementary confidence- and security-building measures to diminish the risk of confrontation between the two largest military alliances.

Strong impetus was given to these and other positive trends during the high-level meetings that Foreign Minister Eduard Shevardnadze had in September in Washington and Wyoming.

As a result, one sees clearly the prospect of turning from overarmament to reasonable sufficiency, of giving States' military doctrines a defensive thrust, and of appropriately restricting armed forces within the stringent framework of requirements for defence. Moreover—and this is important—all channels must be brought into play to allow a restructuring of the military component of the security of States, at both the multilateral and bilateral levels: measures that involve mutual action and those that involve unilateral action.

Mindful of harmonizing word and deed, the Soviet Union has taken a number of unilateral strides to revise its military doctrine in an unambiguously defensive spirit. In the period 1989-1990, the Soviet Union's armed forces will be reduced by 50,000 men, or by 12 per cent. Alongside the wide-ranging reduction of the armed forces, a change in their structure will also take place. In particular, the number of army divisions will be halved and the current ratio of offensive versus defensive capabilities will be revised. The Soviet Union has embarked on the withdrawal of its troops from the territory of other States. The first steps are being taken in selectively converting military manufacturing in the USSR and shifting a part of it to address civil needs. There will be a 19.5 per cent cut in the manufacture of arms. The Soviet Union has published data on its military budget, presently at 77.3 billion roubles, and has started its reduction, planning to bring it down by one third or one half by 1995. An impressive build-down in armed forces, armaments and military budgets will be accomplished by the Soviet Union's Warsaw Treaty allies.

I see the West responding with similar moves in matters of disarmament. They should not be underestimated. New opportunities are opening up as the result of negotiations and a new quality that is emerging in our relationships.

Surely one cannot create a safe world nor safeguard oneself against the risk of war overnight. The process will have its own stages and its own sequence of actions. Care must be taken, therefore, to ensure security during the process of negotiations—every stretch of it—and to agree on the mechanisms to maintain peace at acutely reduced levels of military confrontation.

Awareness of the catastrophic consequences of a possible nuclear exchange has led the USSR and the United States to a shared recognition that there will be no victors in a nuclear war and that such a war must never be allowed to break out in the first place. A non-nuclear war among other major States or their coalitions would take on a similar—and scorching—character, given the capabilities of present-day weapons. I believe that such a war, should it erupt in Europe, would spell death for the continent with its high population density. The large numbers of nuclear and hydropower plants, chemical production facilities and other similar installations would, if destroyed, pose an immense danger to human life.

Today the arms race and the pursuit of military superiority are no longer capable of giving anyone a political, military or technological advantage. The military potentials accumulated hitherto are at a level that ensures only equal danger now. Moreover, efforts to push the technological ceiling higher would be fraught with unpredictable consequences, setting the arms race out of control and destabilizing the strategic situation. This applies, first and foremost, to plans for deployment of defensive space-based systems.

Furthermore, the colossal complexity and speed of present-day weapons, which leave a drastically shortened time for political decision-making and response, increase enormously the risk of an accidental outbreak of war. Finally, the danger that regional armed conflicts will escalate to a global level still looms large today.

For these reasons, the subject of our seminar, "Multilateral Confidence-building Measures and the Prevention of War", is extremely timely.

It is probably legitimate to say that the question of confidence is central to diminishing the risk of war. It is a broad policy of confidence-building that is called for to draw the final line under the cold war, to help the world community abandon enemy images and to promote the restructuring of the military doctrines and war potentials of all States along defensive lines. It is the burgeoning confidence in East-West relations and, in general, the strengthening of sound and constructive fundamental principles in world affairs that have done a great deal to create the atmosphere in which real disarmament can take off. Confidence, verification and openness are the catalysts of disarmament that stimulate the political readiness of parties to seek and identify measures of self-restraint and reductions in armaments conducive to reliable national and common security.

To ease the oppressive burden of worry and uncertainty that has wearied humankind is the objective of measures to reduce the nuclear danger. The Soviet Union and the United States already possess useful experience in this field. As you know, they have concluded a series of agreements to this end. Also, the Soviet and American Nuclear Risk Reduction Centers have been set up and are effectively operating now. Other mutual commitments have also proved their usefulness, including those which ensued from the 1971 Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War and several other accords. It seems worthwhile to explore ways of extending this experience to all the nuclear Powers, of giving the United Kingdom, France and China access to the mechanisms of averting the nuclear danger.

An already tried and tested armamentarium is to be found in the Soviet-United States Agreement on the Prevention of Incidents on and over the High Seas (1972). Proof of this is found in the fact that in the last few years the Soviet Union has signed similar bilateral agreements with the United Kingdom, the Federal Republic of Germany and France. Evidently the time has come to develop a multilateral agreement on that subject—a task in which quite a number of countries affiliated with the North Atlantic Treaty Organization (NATO), the socialist States and the non-nuclear group have a vigorous interest. Specific elements of such a multilateral agreement were proposed by Sweden last May in the United Nations Disarmament Commission. Conclusion of such an agreement would seem to be a logical step. The conclusion last June of the Soviet-United States Agreement on the Prevention of Dangerous Military Activities constitutes a new contribution to the reduction of war risks. Experience of its implementation is, of course, still to be gained, but the opinions of participants at this seminar would definitely be useful.

The establishment of centres for the prevention of military conflicts and sudden attacks could become an efficient method for the maintenance of regional security. Such centres should play an important role in regions with especially high military confrontation, e.g. in Europe.

The proposal to establish a European centre for the reduction of military dangers and the prevention of sudden attacks, which would serve as a forum for co-operation between NATO and the Warsaw Treaty member countries, has become a subject for productive dialogue. Such a centre, working on a permanent basis and performing informational and consultative functions, could serve as a useful structure for increasing the security, predictability and stability of peace in Europe and for removing the sources of confrontation between States in military affairs. Countries of other regions might see this as a fruitful concept, considering that a multilateral approach is at the heart of any regional efforts to strengthen non-military safeguards of security.

From both the philosophical and the practical standpoints, efforts to reduce military dangers would benefit from an impetus to the process of reaching agreement on defensive strategies and reasonable sufficiency for defence. It is important to compare military doctrines, analyse their nature and consider their further evolution in order to reach a better understanding of each other and to ensure that these doctrines are based on defensive principles. The Vienna negotiations are showing evidence of a mutual understanding of the need to have a meaningful discussion of issues concerning military doctrines. The Soviet Union supports the proposal of India to discuss these subjects at the United Nations or at the Conference on Disarmament.

I would like to mention specifically the issue of nuclear deterrence. The Soviet view is known: genuine security can be reached only through eliminating nuclear arsenals. At the same time, it is evident that nuclear dangers can be removed only gradually, and the next steps will not require a radical change in anybody's position. The idea of minimum nuclear deterrence has been proposed by the West. It may be a step forward. It is important to reach a common understanding of minimum nuclear deterrence in order that both sides can feel secure at each step of disarmament.

It is necessary to use fully the United Nations potential in the prevention of military risks and the building of confidence. This international Organization has everything necessary to play a unique role as the world moves towards a peaceful period, and it should become one of the guarantors of stability. Therefore, the United Nations faces both strategic, long-term, and immediate, urgent tasks to increase its efficiency in reducing military dangers.

The settlement of regional conflicts has important significance for reducing global military risks. A more active peace-keeping role for the United Nations and the growing responsibility of the Security Council and the Secretary-General are now extremely important.

The United Nations peace-keeping operations have proved useful. United Nations military forces and military observers are an integral part of international practice, and constitute an efficient way of carrying out the principal task of the Organization under its Charter—the maintenance of international peace and security. The 1988 Nobel Peace Prize to the international forces of the United Nations is a testimony to their growing authority, a credit to their courage. Comprehensive proposals for further increasing the efficiency of United Nations peace-keeping operations were presented by the Soviet Union at the forty-third session of the United Nations General Assembly and have become part of a promising dialogue on this subject.

But today's task is not only the settlement of existing conflicts, but—what is more important—the prevention of new conflicts, reduction of the risk that these disputes could grow into armed hostilities. Therefore the role of the United Nations in reducing military dangers should be seen in a broad context of measures for the prevention of threats that could damage world development and destabilize international relations. Thus, a shift from the United Nations present-day crisis diplomacy to preventive diplomacy is necessary in all spheres of international relations: military and political, economic, environmental and humanitarian.

In the view of the USSR, preventive diplomacy should be based on a profound and objective understanding of the real situation in all spheres of international relations. That is possible only with a fully developed, operational, reliable system of monitoring, with data collection and processing, and with great transparency and openness in all spheres. An increased mass of objective data, concentrated in the United Nations, would greatly enhance the predictability of developments and raise the possibility of identifying in advance and neutralizing threats to peace and security. Such a resource, available to the United Nations, would in itself play a stabilizing role.

Like other States, the Soviet Union welcomed the decision of the United Nations General Assembly at its forty-third session to carry out an in-depth analysis of proposals concerning United Nations fact-finding activities, and actively joined in this work. I believe in particular that the establishment of United Nations monitoring points in hotbeds of tension world-wide would contribute to the Organization's ability to conduct fact-finding operations in conflict-ridden areas.

Preventive measures could be made more effective through verification (alongside monitoring). All States not only should be assured that the provisions of an agreement vital to their interests are being complied with, but should also directly participate in the verification process. Therefore the USSR, in co-sponsorship with other socialist countries, has proposed setting up under the aegis of the United Nations an international agency for monitoring and verification, and it has invited all States to discuss the best way of realizing this project. It is obvious that such an ambitious project should be carried out step by step, with all views carefully considered.

A similar aim is pursued by those States that have proposed setting up under the United Nations an international system of verification or a register of arms sales and supplies; others have suggested establishing international and national expert groups for estimating the prospects that the latest technological breakthroughs will be used in the military field. Very timely and important is Finland's initiative for creating a data bank on the issues of disarmament and arms control. The USSR is prepared to make some information, collected by Soviet commercial satellites, available to such a data bank. The proposal put forward by France for creating an international agency for surveillance satellites is a promising idea. Thus the United Nations agenda contains a whole range of specific, complementary proposals for increasing the Organization's contribution to war prevention.

The Soviet Union particularly appreciates the Secretary-General's initiative to establish under the United Nations a multilateral centre for reducing the threat of war. This idea is ripe for translation into practice. Specifically, there already exists in the Secretariat the organizational machinery which could serve as the basis for such a centre. It seems appropriate that, at the first stage, the centre would deal with reducing threats arising from regional conflicts fought with conventional weapons. It could also be expected to undertake the speedy dispatch of the Secretary-General's fact-finding missions to the areas of international conflict. On the basis of these missions' reports, the Secretary-General could hold consultations with the parties concerned and use his right to address the Security Council. It would be wise to examine how to establish appropriate communication lines between the centre and the capitals of the permanent members of the Security Council and the Chairman of the Non-Aligned Movement.

It is important for these new trends to take root, to become irreversible; it is vital to keep and increase the momentum of the negotiating mechanisms. The Soviet Union is prepared to do that. Together with all other nations, nuclear and non-nuclear, big and small, the Soviet Union participates in the search for understanding and solutions on the bilateral as well as the multilateral level. It is also significant that the human, moral factor is becoming increasingly important in international politics. Broader participation by the public in world affairs gives scope to the process of internationalization.

I hope that this seminar will make another contribution to exchanging experiences and searching for the best way in which to build confidence and prevent war.

I would like to thank the organizers of the seminar—Under-Secretary-General Akashi and officers of the Department for Disarmament Affairs, and the Foreign Ministry of the Ukrainian SSR, which co-operated with the Soviet Peace Committee to create this comfortable atmosphere for our coming "brainstorming" session.

The Risks of Offence-Dominant Force Structures and Strategies
Andrew Mack

Introduction

This paper argues that certain military doctrines—in particular those designed to deter war via offence-dominant force structures and associated war-fighting and war-winning strategies—may increase tension, suspicion and hostility, and intensify the risk of crises occurring and of inadvertent war. Success at the negotiations on strategic arms reductions (START) in reducing the number of super-Power strategic nuclear weapons will not necessarily reduce such risks. Indeed, what might be called "technical instability" may increase even as the number of weapons systems declines.

Moreover, a reduction in super-Power strategic arsenals will make the growing nuclear inventories of France, the United Kingdom and China of increasing strategic significance. The strategic arms control process, insofar as it is successful, is bound, therefore, to become of increasing multilateral concern. On the conventional front the proliferation of chemically armed ballistic and cruise missiles poses new problems for multilateral conflict reduction and arms control.

Offence-dominant force structures and associated war-winning strategies are destabilizing because they provide incentives for arms races, for pre-emption in crises, and for escalation once the threshold of armed conflict has been crossed.

To argue that if wars are unavoidable they should be fought offensively in no sense implies any necessary ag-

Andrew Mack is Head of the Peace Research Centre, Australian National University, Canberra, Australia

gressive intent, but the force structure/strategies necessary for aggression, on the one hand, and for offensive defence, on the other, are very similar, if not identical. This means that no matter how benign the intentions of a State which adopts an offensive defence posture may be, that posture will tend to be seen as evidence of possibly aggressive intent by prudent "worst case" planners on the other side. There is so much evidence to support this proposition—not least in the experience of the North Atlantic Treaty Organization (NATO) of some 40 years—that it can hardly be denied.

Offensive Defence and the Super-Powers

Offensive strategies are based on the principle that "offence is the best form of defence", on the principle of "taking the war to the enemy" in order to destroy his aggressive potential (i.e. offensive weapons systems and the command and control systems, logistics networks, etc., which support them). Only offensive strategies, it is argued, can actually win wars, while the ability to threaten an enemy with the prospect of military defeat is the most powerful and credible deterrent to aggression.

Both super-Powers employ offensive strategies—the Soviet Union on land, the United States at sea. Soviet conventional military doctrine and associated force posture on the Central Front in Europe provide perhaps the most classic example of offensive defence strategy. The USSR suffered millions of casualties fighting a defence-in-depth defensive attrition campaign against the Nazis in World War II. This was not an experience that the Soviet Union was anxious to repeat, and post-war Soviet strategic thought emphasized rapid offensive attacks designed to destroy NATO forces on Western European soil.

There can be no doubt that a major cause of NATO concern about Soviet objectives has stemmed from the Warsaw Treaty Organization's (WTO) highly offensive force posture. Moscow might insist that its forces would be used only in response to aggression; Washington, Bonn and London simply noted that such forces were also worryingly suitable for aggression.

By 1986, however, there were signs of what seemed to be a remarkable change in attitude on the WTO side. Meeting that year in Budapest, the Warsaw Treaty States proposed the idea of a mutual reduction in offensive capabilities.

In September 1987, Mikhail Gorbachev wrote in *Pravda* of the need to create a force structure that "suffices for the prevention of possible aggression, but is insufficient for attack".[1]

In September 1988, Soviet Defence Minister Yazov argued in support of mutual force reductions which would leave:

> ". . . both sides with such numbers of armed forces and weapons as would be sufficient for defense but insufficient for offensive purposes. . . . At any stage we are prepared for mutual reductions in offensive arms—above all, tactical nuclear weapons, strike tactical aircraft, and tanks."[2]

Moscow's subsequent willingness to accept asymmetric cuts which would reduce Warsaw Treaty offensive armour capabilities far more than those of NATO supports the thesis that the Soviet leadership is serious about restructuring the nation's military capabilities in a more defensive direction.

There is no doubt, however, that sectors of the Soviet military oppose both the massive unilateral defence cuts which Gorbachev has already agreed to and any shift away from the USSR's traditionally offensive force posture. Some elements in the military, while paying lip service to the idea of a defensive strategy, seek to maintain powerful forces for counter-offensives. Such forces are normally identical to those needed for offensive operations.

It is somewhat ironic that at a time when the USSR is stressing the need to restructure forces in a defence-dominant direction, there should be a strong push within NATO for a greater emphasis on offensive operations.

The offensive shift in NATO strategy does not imply any hostile intent *vis-à-vis* the USSR. It is rather a response to concerns felt by many NATO planners that the removal of intermediate-range nuclear forces (INF) from Europe will tend to "decouple" Europe from the United States and in so doing undermine the credibility of the United States nuclear guarantee to Europe. Enhancing NATO's conventional forces is seen as one way of overcoming this problem, and one means to this end has been to emphasize "deep attack" missions with forces which employ "emerging technologies" (ET).

NATO has always had both the capability and intention to attack static targets (e.g., airfields and railway marshalling yards) deep in Warsaw Treaty territory. ET capabilities will enhance that capability and, in theory, make it possible to destroy mobile forces as well.

Critics of "deep attack" disagree strongly with the shift away from NATO's traditionally more defensive strategic stance and have argued on a number of grounds against the "deep attack" philosophy, which is embodied in the NATO planning concept known as "follow-on-forces attack" (FOFA) and in the United States Army's "air-land battle" doctrine.

From the perspective of this paper the major source of concern with "deep attack" systems is that even though they lack the capability to seize and hold territory, they are nevertheless destabilizing. Long-range NATO "deep attack" systems will correctly be perceived by the Soviet

Union as posing a serious threat to its vital and military assets, and the destruction of those systems will become a vital Soviet wartime objective—irrespective of the cause of the war.

Since the most effective way to stop certain "deep attack" systems—particularly missiles—is to destroy them on the ground, the very existence of United States "deep attack" systems provides the Soviet Union with an incentive to pre-empt in a crisis. If the Soviet Union targets its "deep attack" systems against those of the United States, this will create a United States incentive to pre-empt and a Soviet incentive to pre-empt a possible United States pre-emption, and so forth.

In the context of an intense crisis, the interactive "ratcheting up" of alert statuses may, as many analysts have argued, increase the chances that defensive preparations will be seen as offensively intended. A situation in which an opponent's intentions are perceived as being aggressive, while at the same time clear incentives exist for pre-emption, provides an almost textbook description of the conditions for crisis instability.

Given that both the Soviet Union and NATO are publicly committed to reducing the capabilities for both surprise attack and large-scale offensive operations, prospects for successful negotiations towards achieving these goals at the new conventional armed forces (CFE) talks in Vienna might appear to be good—indeed heartening progress has already been made. There remain real difficulties, however.

NATO is still suspicious about Moscow's apparent embrace of the concept of defensive defence—noting the continued Soviet military adherence to the idea of counter-offensives. The Warsaw Treaty States, on the other hand, find NATO's reluctance to negotiate reductions in some offensive systems (particularly the missiles and strike aircraft which would be used in "deep attack" missions) unacceptable.

Strategic Stability and the United States Maritime Strategy

The fact that, after four decades of confrontation across the Central Front in Europe, the USSR has acceded to NATO demands that it reduce the offensive thrust of its military posture and make unilateral cuts in its forces is quite remarkable. It stands in stark contrast to the decade and a half of completely fruitless Mutual and Balanced Force Reduction Talks (MBFR). If the cuts proceed as suggested, the Soviet Union itself will have undercut its own long-held strategy for winning a war in Europe.

But often forgotten in the obsessive Western media focus on Europe is the fact that Moscow has concerns about offensive Western strategy—particularly United States naval strategy. While Moscow has responded positively to NATO's concerns about the offensive nature of Soviet land strategy in Europe, the United States has been resistant to Soviet demands that naval arms control measures be implemented to constrain the equally offensive nature of the United States Navy's global Maritime Strategy.[3] NATO has refused even to discuss naval issues in the CFE talks or in any other forum.

The Maritime Strategy stresses forward offensive operations designed to win the "battle of the first salvo" and "go for the jugular" of the USSR. As former Defense Secretary Caspar Weinberger argued in 1986, the United States is seeking to develop forces that, once hostilities have commenced, will be able to "strike first, from extended ranges".[4]

The fact that the Maritime Strategy is offensive in orientation does not, of course, mean that the United States harbours aggressive intentions towards the USSR—any more than does the offensive thrust of Soviet land strategy on the

Central Front mean that the Soviet Union harbours aggressive intentions towards NATO Europe. However, the United States Navy's strategic posture, like that of the USSR on the Central Front in Europe, does have serious implications for crisis stability.

Two aspects of the Maritime Strategy are of particular concern here. First, there is the claimed United States intent to attack Soviet missile-firing submarines (the most survivable forces in the Soviet strategic "triad") at the outset of a conventional war. This tactic is intended to weaken the Soviet nuclear-powered ballistic missile submarine (SSBN) force and in so doing to change the nuclear correlation of forces in favour of the United States. With Soviet offensive nuclear capability thus weakened, the nuclear option for Moscow will, it is argued, become "less attractive".[5] This in turn will enhance the prospects for war termination on terms favourable to the United States. Thus it will reduce the risk that the conventional conflict will cross the nuclear threshold by minimizing Soviet incentives for escalation. The logic underpinning such assumptions is, however, highly questionable.

It is difficult to see how the Soviet Union could possibly permit the attrition of its SSBNs to continue without retaliating. Over a considerable period of time a successful United States anti-SSBN campaign could certainly affect the strategic balance—even though the initial impact would be small.

Moreover, the United States Navy's anti-SSBN tactic will be of increasing concern to Soviet military planners as greater and greater percentages of Soviet land-based forces become vulnerable to new United States strategic systems. These include the B-1 bomber (and possibly the B-2), the MX missile (and possibly the Midgetman) and, above all, the Trident D-5 submarine-launched ballistic missile (SLBM)—the first SLBM to have "hard-target" capability comparable to accurate land-based systems like the MX.

The greater the vulnerability of Soviet offensive strategic systems, the greater the incentives for the United States to attempt damage-limiting pre-emptive strikes against them. Nuclear pre-emption has a certain macabre logic in a crisis situation where one side believes, or believes that its opponent believes, that war is anyway inevitable.

When war appears to be inevitable the rationale for nuclear pre-emption and escalation is to limit damage to oneself by destroying as many as possible of the enemy's nuclear-weapons systems before they can be used.

It is impossible to say how Moscow would respond to attacks on its SSBNs. The United States Navy expresses confidence that the Soviet Union would not cross the nuclear threshold, but such confidence is more an artifact of faith than anything else. It is not a faith shared by many of the Navy's critics.

The anti-SSBN tactic also violates one of the central tenets of United States thinking on arms control for the past two decades. Successive United States Administrations have sought to persuade the Soviet Union to shift the emphasis in its strategic forces from the highly destabilizing heavy intercontinental ballistic missiles (ICBMs) with multiple independently targetable re-entry vehicles (MIRVs) to SLBMs on the grounds that the latter are more stabilizing. But this policy is made to look ridiculous if the United States Navy then targets the very missile submarines which are supposed to be stabilizing because they are the least vulnerable element in the Soviet strategic "triad" of ICBMs, bombers and submarines.

A second destabilizing aspect of the Maritime Strategy is the tactic of so-called horizontal escalation. The rationale underpinning horizontal escalation will be familiar to any chess player. If United States forces are involved in a losing battle with the Soviet Union on the Central Front in Europe, the Navy can bring countervailing pressure to bear via horizontal escalation. This means in essence that the United States would open a second front by escalating the conflict horizontally—i.e., attacking the Soviet Union at a location where it is at a disadvantage. The alleged tactical benefits of horizontal escalation have been subjected to severe criticism in the United States, but the tactical shortcomings are of less concern here than questions of strategic stability and escalation control.

Horizontal escalation makes a virtue of transforming regional conflicts into global wars. It seeks deliberately to widen the super-Power confrontation, despite the fact that the stated objective of United States policy is to confine the scope and intensity of conflicts. In proliferating the theatres of war it compounds problems of conflict termination and, above all, it threatens further escalation. It makes United States allies like Japan, which exist on the Soviet periphery, hostage to instabilities on the other side of the globe. It will, moreover, be militarily redundant if asymmetric force reductions by Moscow on the Central Front make the prospects of the Soviet Union's achieving conventional victory non-existent.

In both the anti-SSBN tactic and horizontal escalation we see how offensive tactics designed to enhance deterrence and prevail if deterrence fails may undermine crisis stability and escalation control.

Soviet concerns about the offensive thrust of the Maritime Strategy are reflected in the considerable number of naval arms control proposals advanced by Moscow over the past three years. These proposals have been either ignored by the United States or rejected. The United States complains correctly that most of the Soviet proposals are one-sided. If implemented they would constrain United States naval activities more than those of the USSR—in other words, the United States would be at a relative military disadvantage if it accepted Moscow's proposals. Yet the Soviet demand on the United States—namely that Washington reduce the threat of superior and offensively deployed maritime forces which Moscow finds so worrying—seems little different from the United States demand that the USSR reduce the threat of its numerically superior and offensively deployed land forces along the Central Front in Europe.

The United States Navy also argues that it is legitimate for the United States to have maritime superiority based on a forward offensive strategy since the United States is a maritime Power with offshore allies to protect. But even if the logic of this claim (which ignores the fact that the USSR is also a considerable maritime Power) is accepted, it is not clear why it would not be equally legitimate for the USSR, a continental Power, to maintain its land superiority on the Central Front in Europe.

New Conventional Weapons and the Risk of War

Throughout history the emergence of new weapons systems has wrought major or minor revolutions in strategy. Two such developments may be taking place today, one deriving from the dramatic improvement in ballistic and cruise missile capabilities and the global proliferation of these systems, the other created by the threat of a combination of chemical (and possibly biological) weapon proliferation.

During the past two or three years, prompted in part by events during the Iran/Iraq war, Iraq used both chemical weapons and ballistic missiles—but not in combination. Had Iraqi chemical weapons been mounted on the ballistic missiles used against Iranian cities during the war, the death toll would have been comparable to, or greater than, that at Hiroshima and Nagasaki.

There is clearly a real possibility that, at some time in the future, the proliferation of chemical weapons capabilities plus the growing availability of off-the-shelf ballistic missiles may lead to the two technologies' being combined in war—with devastating consequences for the civilian populations of the major cities which would be the most likely targets.

The spread of ballistic missile technologies is already well under way. According to a recent report by the United States Congressional Research Service:

> "The number of countries that have purchased missiles is growing; the number of countries that produce missiles is growing; and their missiles have increasingly longer ranges, carry heavier warheads, and are generally improving in accuracy."[6]

The USSR has sold large numbers of short-range ballistic missiles to third world client States—mostly in the Middle East. The United States has exported missiles in the past to Israel and the Republic of Korea, and, in 1988, China sold to Saudi Arabia CSS-2 missiles which (depending on the type of warhead used) have a range of up to 2,30 kilometres.

Ballistic missiles can be—and are—produced indigenously as well as imported, and international co-operation is also a characteristic of the missile development programmes of a number of third world countries.

Ballistic missiles are not the only cause for concern; cruise missiles fired from ships or submarines provide another possible chemical weapons launch vehicle. Most sea-launched cruise missiles (SLCMs) deployed world-wide today are anti-shipping missiles, e.g., Harpoon and Exocet. For these (or larger) SLCMs to be used effectively for land-attack missions, new guidance systems would be needed. Such guidance systems may already be available.

Equivalents to the United States terrain-matching radar (TERCOM) system used on the Tomahawk land-attack missile are unlikely to be emulated by third world States for a long time. Accurate targeting for such systems may soon become possible using the US NAVSTAR satellite navigation system. Navigational positioning within around 30 metres is accurate enough for delivering chemical weapons munitions. Cruise missiles, which fly at sub-sonic speeds, are theoretically capable of detection; however, the probability of a successful defence against close-in, submarine-launched SLCM attacks would be extremely low.

Meeting the Chemical Weapons/ Ballistic Missile Threat

What can be done to combat the looming chemical weapons/missile threat? Having exported short-range ballistic missiles in the past, the United States now believes that global security will be enhanced by checking ballistic missile proliferation. The Soviet Union clearly shares many of the United States concerns.

One approach to the problem of ballistic missile proliferation is arms control and a hesitant start has already been made down this road. In 1987, seven industrialized States, including the United States, agreed to monitor and control the export of nuclear-capable missiles and vital components for those missiles. The Soviet Union has not yet joined the club, but may well be persuaded to do so.

The 1987 agreement is known as the Missile Technology Control Régime (MTCR)—a multilateral agreement with too few members. MTCR suffers from a number of formidable problems, not least of which is that it seems to many third world countries like yet another re-run of an old, familiar theme: advanced industrialized countries believe that ballistic missiles—like nuclear weapons and chemical weapons—serve the cause of deterrence and stability when in *their* hands. The same weapons in third world hands are seen as undesirable and destabilizing. Most third world nations find such attitudes patronizing, hypocritical and unacceptable.

However, it is unlikely that even an improved export control régime would provide more than a partial solution to the missile proliferation problem. So, given that there are no effective defences against ballistic missile attacks, what are the other potential options?

First, there is what might be called "countervailing deterrence". Countries concerned about the threat of ballistic missile/chemical weapons attack could acquire similar capabilities with which to threaten retaliation in kind if attacked. Such a response is, however, likely to lead to a classic action-reaction arms race, and arms races tend to increase pre-existing tensions and heighten suspicion and hostility.

The threat which long-range chemical-weapon missiles pose and the impossibility of defending against them once they are launched would also provide threatened States with an incentive in a crisis to try a disarming first strike against their opponents' missiles and/or chemical weapons stocks. Once again we see that offensive weapons systems which may be intended solely to enhance deterrence may help cause the very wars they are intended to prevent.

Although the arms control option is worth pursuing, what is also needed is a campaign designed to make any resort to chemical weapons politically unacceptable. The international community must make the use of chemical weapons—especially those mounted on long-range delivery systems which are likely to be directed against civilians—as morally indefensible and unthinkable as resort to nuclear weapons has become. The super-Powers will have absolutely no moral or political authority in this respect as long as they continue to maintain huge chemical-weapons stocks.

Conclusion

The central theme of this paper has been that long-range offensive weapons systems and strategies designed to enhance deterrence may increase suspicion and hostility, provide incentives for arms races, for pre-emption in crises, and for escalation once the threshold of violence has been crossed. In other words, they may increase the risks of inadvertent war.

Policies designed to reduce the risks of unintended war are quite different from those intended to deter aggression via offence-dominant strategies and force structures. They tend to focus on techniques of crisis avoidance, crisis control, tension-reduction, confidence-building and arms control. In all the areas discussed in this paper it is clear that the arms control process will in the future be increasingly multilateral.

Policies which aim to reduce the risk of inadvertent use may also increasingly focus on the need to create defensively oriented strategies and force structures which provide a strong defence and an adequate deterrent, while eschewing those offensive capabilities. There is now a considerable literature on "non-provocative defence" concepts and an active debate on their strategic value in both Europe and the Soviet Union. It is difficult to see what objections could be raised to the mutual adoption of defensive strategies; the common security benefits could be enormous.

References

1. Cited in *Non-Offensive Defence*, No. 8, February 1988, p. 13.

2. Yazov, Dmitri. "The Soviet proposal for European security" *Bulletin of the Atomic Scientists*, September 1988, p. 9.

3. The Maritime Strategy was first articulated publicly in 1982. See Admiral James D. Watkins, "The Maritime Strategy", in the Maritime Strategy Supplement to *Proceedings* (United States Naval Institute, January 1986).

4. United States Report of the Secretary of Defense to Congress on the FY 1987 Budget (Washington, D.C., United States Government Printing Office, 1986), p. 169.

5. Watkins, "The Maritime Strategy", p. 14.

6. "Missile Proliferation: Survey of Emerging Missile Forces". By Robert D. Shuey and others. Congressional Research Service, 9 February 1989, p. CRS-1.

The Impact of East-West Confidence-building Measures on Global Security: A View from the South

Fernando Simas Magalhaes

On different occasions, concern has been expressed regarding disturbing trends in the field of arms control and disarmament. In particular, a substantial number of countries fear that the major nuclear Powers have shifted their negotiating priorities away from the 1978 Final Document of the Tenth Special Session of the General Assembly. Focusing now on questions mainly related to conventional forces and weapons and to measures of non-proliferation, they seem reluctant to agree on curtailing their nuclear stocks.

Other countries, which are not directly responsible for the accumulation of military arsenals and whose problems are of an entirely different nature, tend occasionally, for the reasons mentioned above, to remain on the sidelines of debates regarding confidence-building measures. The following remarks are an attempt to look at these matters from the perspective of the challenges involved in the restructuring of the international order.

The easing of East-West tensions offers political and diplomatic opportunities for all members of the international community. At this juncture, it is particularly important to promote a comprehensive understanding of contemporary global trends. Attention should be given to specific aspects

---

Fernando Simas Magalhaes is Counsellor in the Embassy of Brazil in Moscow, USSR.

of the international order that may, in the future, constrain the mobility of those countries at the lower levels of the present system of power.

There are important trends to take into account as we move into the 1990s. One that comes to mind immediately is the belief that interdependence will become the key concept of inter-State relations. The prevailing view is that the new order—possibly freed from contradictory political elements and taking as its premise a newly found realism—will provide the foundations for greater international security and stability.

It is true that interdependence means that East and West may find common ground in defining acceptable rules of cohabitation under an umbrella of bilateral, regional and multilateral agreements. It should not, however, be taken for granted that the probability of political fragmentation on the international level will cease to exist in the future. Certainly, the emphasis seems likely to be deflected from the critical aspects of the nuclear and military threats, mainly in the European theatre. For the third world countries, nevertheless, the consequences of this process are not entirely clear.

The prevention of war has a different meaning and less obvious implications for all those countries which are peripheral to the central negotiations on arms control and crisis management. It is not that they are less interested in disarmament measures as a whole, but they seek a much broader understanding of international peace and security questions.

The ongoing negotiations between the United States and the Soviet Union—and among member States of the two opposing military alliances—entail a number of challenges to all other countries. Particularly for the developing world, it is essential to ensure that the prospects of East-West entente are not restricted to military and security arrangements. The evolving agreements among major Powers must not lead to the obstruction of the already jammed channels of international dialogue and co-operation.

It is most disquieting, for instance, that enemy images are still commonly applied to portray endemic problems of the developing countries. There is indeed an obvious imbalance when it comes to debating issues like drugs and environmental protection, among others. This bias does not recognize the complexity of tasks facing the poorer countries. From their point of view, on the contrary, confidence-building measures cannot exist in isolation, apart from economic development and social advancement.

It would be insufficient, on the one hand, to accommodate the military concerns of the major Powers and, on the other, to avoid extending the related benefits of mitigated tensions to other spheres of international co-existence. The potentially explosive crisis in the third world, associated with ever-increasing social backwardness, ought to be an integral element of any peace strategy. It is therefore of paramount importance to prevent the re-emergence of types of confrontation or attrition caused by the present state of affairs in sensitive areas like trade protectionism, external debt and extreme poverty in the least developed countries.

Besides the dynamic elements of neo-détente, another interesting trait of the contemporary world is the setting of new economic frontiers that do not entirely coincide with the prevailing geostrategic reality. Expectations regarding the European Common Market and the Asian-Pacific region reflect the fact that a revolutionary reshaping of the international economic order is on its way. This process will, hopefully, run parallel to unprecedented achievements in the field of disarmament, but it will not necessarily be devoid of contradictions and conflicting aspects.

Countries at the centre of the international system, both politically and economically, will stress that interdependence is the guiding principle of the new order. The main issue at hand, however, is to promote a substantial remodelling of international relations on the basis of a comprehensive diagnosis of the present problems affecting humanity.

It is unavoidable that national effort and the related questions of national sovereignty will continue to play a predominant role in the identification of global security interests. This is the only realistic option for most of our countries. It is an approach that combines positive expectations and adequate diplomatic action.

This leads to a final observation. The debate on confidence-building measures should not be guided solely by the criteria of the balance of military power. It has to go beyond the question of shaping stability and preserving the *status quo*. It has to incorporate other interlocking qualitative aspects of inter-State relations and the perceptions and policies of all countries, great and small. In the final analysis, the prevention of war on a global scale would not be really meaningful if the major Powers remained either silent or indifferent to the less fortunate countries' permanent isolation from the streams of international wealth and prosperity. The United Nations has a unique role to play in promoting these objectives.

Documentation relating to Disarmament

Final Statement of the Palme Commission on Disarmament and Security Issues

Government-Industry Conference against Chemical Weapons: Summary Statement by the Chairman

Joint United States-Soviet Statement on Chemical Weapons

Final Declaration of the Third Review Conference of the Parties to the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof

Final Statement of the Palme Commission on Disarmament and Security Issues

Stockholm, 14 April 1989*

1. The Palme Commission on Disarmament and Security Issues concludes its work at a time when reason and common sense seem at last to be taking hold in the world. Long and bloody conflicts in several regions are ending. The prospects for halting the arms race have rarely appeared so promising. There seems to be a greater spirit of co-operation among countries. The United Nations is again being used as an important instrument for peace.

2. The current situation stands in striking contrast to the state of the world in 1980, when the Commission was established under the leadership of the late Olof Palme of Sweden. At that time, relations between the United States and the Soviet Union were deteriorating rapidly, heading towards a struggle reminiscent of the darkest moments of the Cold War. As the major Powers froze negotiations and exchanged insults, conflicts raged in East and South Asia, in the Persian Gulf, in several parts of Africa, and in Central America. Arms negotiations were stalled, as nations in all areas of the world accelerated their military programmes. As arms races heated up, the danger of nuclear war seemed less and less an abstract idea, and more and more a possibility.

3. Deeply concerned about the world situation, we came together to see if, in spite of our differences in national backgrounds and political convictions, we could identify common interests and objectives and agree on a promising course of action. Agreement, indeed, proved possible, and resulted in our report, *Common Security: A Programme for Disarmament*, published in 1982.

4. At this, our last meeting, we have both looked behind us to assess the changes in the international situation since *Common Security* was issued, and, more importantly, we have looked ahead to consider appropriate courses of action for the future. In our opinion, humanity has an historic opportunity in the final decade of the twentieth century to create a radically more peaceful and more humane world. This opportunity must not be missed; it may not reappear.

---

* A/44/293.

Common security

5. In 1982 we called for new approaches to issues of international security and disarmament. "There will be no winner in a nuclear war", we pointed out, an observation now accepted officially by the two leading military Powers. As a result, we concluded, "a doctrine of common security must replace the present expedient of deterrence through armaments. International peace must rest on a commitment to joint survival rather than a threat of mutual destruction."

6. The development of nuclear weapons, along with the aircraft and missiles capable of delivering them to any point in the world within minutes, shows clearly that war should not be considered a rational instrument of statecraft. All nations would be threatened should a military conflict directly involving the leading military Powers ever take place. All nations—rich and poor, powerful and weak, peaceful and bellicose, socialist and capitalist—are united in their vulnerability to nuclear attack and to the effects of nuclear war.

7. Technology is also making it possible for more nations to build nuclear weapons, and for other countries, and even sub-national groups, to build additional types of weapons of mass destruction, introducing new horrors in world affairs. It is feared that as many as 20 nations either possess or may now be building lethal chemical weapons, while advances in biological sciences could raise previously unknown threats to human existence.

8. Even on the so-called "conventional" level, the human and material destruction of modern warfare can be horrendous. Given current and prospective military technologies, war is losing its meaning as an instrument of national policy, becoming instead an engine of senseless destruction that leaves the root causes of conflict unresolved. As weapons advance technologically, moreover, the costs of preparing for war are becoming increasingly burdensome, even for the most wealthy nations.

9. These facts have made traditional concepts of national security obsolete. In the nuclear age, nations can no longer hope to protect their citizens through unilateral military measures. All States, even the most powerful, are dependent in the end upon the good sense and restraint of other nations. Even ideological and political opponents have a shared interest in survival. In the long run, no nation can base its security on the insecurity of others. True security requires a co-operative effort, a partnership in the struggle against war which can only be established through dialogue and reconciliation.

10. All nations of course have the right of self-defence, as guaranteed in the Charter of the United Nations, and hence to maintain military forces

adequate for that task. But the pursuit of military superiority is a futile endeavour that can only lead to less security for all. It is evident that most nations have become more powerful militarily over the years, yet it is equally clear that this has not led to a greater sense of security. Common security requires an end to arms competition through negotiation, national restraint, and a spirit of collective responsibility and mutual confidence.

11. But security is a broader and more complex concept than protection from arms and war. The roots of conflicts and insecurity include poverty, economic disparities within nations and between them, oppression, and the denial of fundamental freedoms. Unless problems of social and economic underdevelopment are addressed, common security can never be truly attained. New threats to security also are emerging from environmental problems and the degradation of certain ecosystems. Against these threats to humanity's survival, the adversaries in the East-West conflict no longer stand on opposite sides; they often confront the same dangers—dangers they share as well in North/South relations. In this respect, common security could evolve from a concept intended to protect against war to a comprehensive approach to world peace, social justice, economic development, and environmental protection.

12. The early years of the next century could see a world which is greatly different, but perhaps not greatly better than the world of today. East-West tensions could sharply decline, but conflict would not thus necessarily vanish from international life. As economic development continues to diffuse power more broadly around the globe, both ancient and newly discovered differences could become acute. The problem of wars, local or regional, could become as fraught with disastrous consequences as those which were brought on humanity by the two World Wars.

13. This need not happen. The inadequacy of "military solutions" has been illustrated so vividly in our recent past that one can reasonably hope that the lesson has been widely learned. A world in which there are many more centres of political and economic activity will require different approaches to ensure the peaceful solution of problems, their "demilitarization", and the harmonization of apparently conflicting interests. Humanity can succeed in this vital task if it is resolved to succeed and if it provides itself with the institutions it will need to put that resolve into effect.

Common security through the rule of law

14. There are now more than 160 independent nation-States. A handful of them have large populations and cover vast areas, but most are small

in territory and citizenry. Some are advanced technologically and prosperous; many more are poor and struggling to develop their economies. All nations are sovereign. But never before have common problems and challenges transcending the borders of individual States been so evident. The forces shaping our future are less and less under the control of individual Governments. No one country can solve these problems alone. No one State can organize global security, dominate the global economy, or determine the course of political affairs. In order to deal with the problems of the world, nations will have to co-operate and establish stronger forms of international order.

15. The evolution of an effective and stable international legal and political framework is essential for the achievement of international peace and security, for substantial progress towards disarmament, and for sustainable economic and social development. Over time, anarchy and power politics must yield to the rule of law among States. National sovereignty must always be respected, but in their own self-interest, States must learn to exercise collective responsibility and self-restraint, to co-operate with one another, and to follow patterns of behaviour that support the emergence of the rule of law.

16. Co-operation will not replace rivalry as the hallmark of international behaviour overnight. It will take time before nations habitually follow peaceful patterns, conform strictly to the dictates of international law, and act through international institutions to achieve their common interests. Trust among nations can develop only slowly, particularly among States who have been enemies in the past. But concerted efforts can provide surprising results, as we have seen during the past few years, and any pauses in the progress towards a more just and lawful international society can be utilized effectively to consolidate the gains which already have been made.

17. Transforming the current international system to one grounded more firmly on the rule of law requires three simultaneous and mutually reinforcing developments.

18. First, nations must develop patterns of behaviour in which disputes are resolved peacefully, as they undertook in the Charter of the United Nations. In their own self-interest, States must recognize that recourse to peaceful means of resolving conflicts is far more effective than recourse to war, armaments, or coercion. A variety of such peaceful means are already available: mediation, arbitration, diplomatic negotiations, and others. They can be carried out bilaterally, with the assistance of third parties, through regional organizations, or through multilateral global organizations. The specific means and forum for resolving a conflict need

to be fitted to the substance of the issue. What is important is not the choice of venue, but the prerequisite decision to turn away from instruments based on military strength. When nations habitually use peaceful means to resolve disputes, the rule of law will be strengthened.

19. Second, international institutions must be strengthened. Again, many of the necessary organizations already exist, including the International Court of Justice, various arbitration and mediation agencies, regional political and economic organizations, and of course the United Nations and its subsidiary agencies. It is a question of providing these institutions with greater resources, of improving their procedures and methods of operation, and—most importantly—of developing national patterns of behaviour that turn first to these organizations for assistance. There could be a synergy here. As international institutions become stronger, nations can be expected to become more willing to rely on international instruments rather than on unilateral ones. As such changes occur in national patterns of behaviour, the international institutions will themselves gain confidence and become more effective.

20. Third, public opinion must be mobilized. In that respect, private organizations have a vital role to play. Such associations can reflect the concerns of people throughout the world about emerging threats to security even before Governments can take action. Working together with Governments and international institutions, they can help to ensure the timely address of the world's problems.

Strengthening the United Nations

21. In this context, no more important task exists than to strengthen the United Nations. Until an international security régime based on the Charter of the United Nations is implemented effectively and reliably, nations will see no alternative but to arm themselves, even at great sacrifice in terms of economic development. Events in recent years provide hope that it may be possible to reaffirm and develop the security régime of the United Nations. For the first time since 1945 there seems to be agreement among the major Powers to act to prevent and contain conflicts, and to put their weight behind the methods and techniques evolved by the United Nations. It will take more than rhetoric to make the United Nations effective. It will require leadership and restraint by the leading Powers, co-operation from other nations, and the allocation of tangible resources by all States.

22. In our 1982 report, we put forward practical steps to strengthen the United Nations security system. Our approach was ambitious, covering means of anticipating and preventing conflicts, improved methods for

peace-keeping operations, and even means of utilizing the Charter's enforcement mechanisms—long impractical because of the East-West division—in certain well-defined types of conflict situations. Not all were ready for our proposals for preventive peace-keeping, but the international situation now appears propitious to strengthen the ability of the United Nations to anticipate and prevent conflict, as well as to keep the peace in various situations.

Anticipating conflict

23. Strengthening the United Nations must begin with the Security Council, and particularly with its permanent members. Given the better understanding and closer collaboration which now seems to characterize these five States, there is an opportunity to build on this spirit to strengthen the ability of the United Nations to resolve conflicts peacefully and co-operatively.

24. Early warning is essential to anticipate and forestall conflicts. The Secretary-General is authorized under Article 99 of the Charter to bring to the attention of the Security Council, "any matter which in his opinion may threaten the maintenance of international peace and security". In order to monitor the world situation, however, the Secretary-General must have available the necessary personnel and technology, such as military observers, fact-finders, and experts.

25. Consideration also should be given to making available to the Secretariat information derived from space-based and other technical surveillance systems. Access to such information would enable the Secretariat to monitor world troublespots and to seek timely authority from the Security Council to resolve prospective military conflicts. The United Nations could have its own surveillance capabilities and a small cadre of experts to interpret the data. Before this option can become a reality, Member States might undertake to provide national data to United Nations experts. There is likely also to be an increasing flow of data available on a commercial basis. These options need to be evaluated, but there should be no debate on the need to enhance the access of the United Nations to the basic facts wherever a troublespot may develop.

26. The Secretary-General should prepare a report on the world security situation each year and deliver it to a public session of the Security Council attended by the foreign ministers of the members. A subsequent private session of the Council should identify and direct any specific measures which might be required. The international community has too often been late to act in conflict situations and has not shown sufficient determination to unite behind recognized principles of international law

and justice. This not only gives aggressors time to consolidate their gains, but weakens the authority of the Council, undermining the confidence of small and weak States in the collective security system.

27. We believe it is essential for the Security Council to agree on certain procedures to be set in motion when a conflict is emerging. Each crisis is of course a unique case, but previously agreed procedures for certain classes of contingencies can expedite action. These procedures can include the use of fact-finding missions and military observer teams to avoid the emergence of a conflict. It would be most helpful if the permanent members of the Council would commit themselves to consider the dispatch by the Secretary-General of special representatives, observers or fact-finders as a procedural matter, not subject to the veto. All Members of the United Nations should also commit themselves to receiving such emissaries of the Secretary-General and co-operating fully with them in the fulfilment of their task. If armed conflict occurs, the Council must be prepared to act to bring about a cease-fire, making use, if necessary, of the means of enforcement described in Chapter VII of the Charter.

Improved capabilities for peace-keeping

28. The tremendous contributions of United Nations peace-keeping forces were recognized in 1988 by their receipt of the Nobel Peace Prize. With a greater emphasis on the role of the United Nations in international security, and with the strengthening of the rule of international law, peace-keeping will become even more important. We believe that the role of these operations should be expanded, that the resources available to the Secretary-General in support of peace-keeping should be enhanced, and that the financing of peace-keeping operations should be placed on a sounder basis.

Role

29. In the past peace-keeping operations have been used primarily to observe and monitor cease-fires and other means of ending and containing armed conflicts. We believe that the role of peace-keeping operations can be expanded and the concept and methods be applied to areas beyond those of classical peace-keeping. These are essentially political, rather than military, operations. According to the specific needs of the situation, they usually include a civilian component like medical units, civilian police forces, transport equipment, various experts, and so on. They have often been required to render humanitarian assistance to the populations in addition to peace-keeping functions.

30. In peace-keeping operations, personnel and equipment are drawn

together and put under a unified command for a specific purpose, not necessarily limited to monitoring a cease-fire. It could be to oversee elections, a task which is given explicitly in the mandate for the United Nations Transition Assistance Group in Namibia. In other roles, peace-keeping forces could ensure that countries are not destabilized across frontiers.

31. Other types of peace-keeping operations could include:

a Maritime peace-keeping in situations such as the recent conflict in the Persian Gulf, or against piracy or other criminal activity in troubled regions such as South-East Asia. Combined naval exercises should embrace and prepare for a United Nations peace-keeping role.

b International reactions to some forms of *terrorist incidents* should be anticipated and prepared for.

c Another role arises from the increasing risk of *environmental catastrophes*. Many countries in the developing world do not have the expertise or the resources to cope with such accidents. When they occur, quick action is needed. Containing the damage and restoring the environment is in the interest not only of the country directly affected, but of the international community as a whole.

d The question of how the international community can in the future play a role in *prolonged conflicts within a State* also needs to be considered, particularly when it has a bearing on the efficacy of international relief efforts.

32. A significant portion of the United Nations membership consists of small States—no fewer than 34 of the Members of the United Nations have a population of 1 million or less. They are especially vulnerable to outside intervention. If these small countries are to put their trust in the United Nations security system, it is important to make arrangements so that defensive operations can be carried out through the United Nations on behalf of the entire international community. The weakest members of the family of nations should not be denied the protection of international law in a practical form.

Resources

33. The Secretary-General is charged with all aspects of the management of peace-keeping operations. Beyond a small complement of military personnel on the Secretary-General's staff to co-ordinate preparations for, and the implementation of, peace-keeping operations, it is not necessary to expand the United Nations own resources for peace-keeping. Military units in the armed forces of all nations, including all permanent members of the Security Council, which potentially could be made available for peace-keeping should be earmarked, along with the airlift and sealift assets

that would be used to transport them to troublespots in emergencies. Specialized logistical and medical units also should be earmarked throughout the world. Developing nations might be given assistance to train designated military units for peace-keeping roles.

34. Equipment useful for peace-keeping operations might be stockpiled in several locations so that it can be readily available when necessary. Advanced technologies, such as seismic and acoustic sensors, mobile radars, advanced communications, and even overhead surveillance systems, could be useful in a variety of ways to monitor cease-fires and disengagement zones. The application of such advanced technologies could reduce both the manpower requirements of peace-keeping operations and potential losses of life. Means should be found to develop these technologies for peace-keeping purposes and to make the systems available to the United Nations. Such proposals may appear futuristic and costly, but they could prove cost-effective. It would be regrettable if the best technologies were available for war-making purposes, but denied to peace-keepers.

Financing

35. All aspects of the United Nations operations have faced financial difficulties in recent years, but perhaps none so severe as its peace-keeping missions. A world that spends the equivalent of nearly 1 trillion United States dollars each year to prepare for war should be able to afford the comparatively small sums required for peace-keeping. But the current arrangements for financing these operations are inadequate and unreliable. They place the heaviest burden on the countries that contribute the troops, thus discouraging participation and harming the principle of collective security. Financial constraints place severe limits on the capabilities of the United Nations to prevent and contain violence, and to resolve conflicts successfully. Just this year, for example, the initial scope of the operation of the United Nations in Namibia had to be scaled back substantially. Due to financial limitations imposed by the five permanent members of the Security Council, the size of the planned force was cut from 7,500 to 4,600. These constraints and the ensuing delays have already seriously hampered the Namibian operation, hamstringing the peace-keeping forces and threatening the peace settlement that had been negotiated.

36. A special reserve fund earmarked for peace-keeping operations should be built up over a few years to a minimum total of 2 billion United States dollars. Money for this fund should be raised through mandatory contributions assessed to all Member States on the basis of a formula established by the General Assembly.

37. Negotiations to set up peace-keeping operations are often drawn out because of disagreements on their financing. The proposed "Peace-keeping Fund" would serve as a financial buffer and thus facilitate the initiation of new operations on a timely basis. The fund would be used to pay only for missions mandated by the Security Council. It would be replenished each year, as needed, on the direction of the General Assembly.

38. In addition to mandatory contributions, voluntary contributions to the Peace-keeping Fund should be encouraged, especially from States that as a matter of principle do not participate in peace-keeping operations. It should be possible for organizations and individuals to contribute to the Fund as well, especially those who benefit financially from peace-keeping operations. Finally, possible independent sources of revenue for peace-keeping operations with built-in automaticity should be considered. One such source would be a levy on arms exports, which would require the establishment of a United Nations register of private and governmental international arms sales. The costs of keeping the peace are much lower than the costs of war.

Common security through negotiations

39. Emergence of the international rule of law would encourage progress towards arms control and disarmament. For the most part, nations arm because they are involved in conflicts or fear that they would be vulnerable to attack if they were not strong militarily. Persuading States to disarm requires that they gain confidence in the capabilities of international institutions and international laws to protect their security.

40. The United States and the Soviet Union and their respective allies, which together account for more than three fourths of the world's military expenditures, have the greatest responsibility for progress towards arms control and disarmament. Not only must the leading military Powers make progress in their bilateral talks, but their leadership is essential if separate negotiations on global aspects of the arms competition, and on regional issues, are to be concluded successfully.

41. There has been considerable progress in arms negotiations since our report was issued in 1982. The United States and the Soviet Union have concluded a treaty eliminating all intermediate-range missiles from their arsenals, the first time a whole class of nuclear weapons has been abolished through international negotiations. They have also made considerable progress in the bilateral START talks on central strategic nuclear forces, and are discussing a draft agreement which would roughly halve the two States' strategic arsenals. The talks in Geneva on abolishing lethal

chemical weapons, carried out under the auspices of the Conference on Disarmament, also have made substantial progress, as have several other negotiations. A new negotiation on conventional forces in Europe, with much better prospects than its predecessor, and a further negotiation on confidence- and security-building measures, opened in Vienna last month.

42. Important issues still cloud each of these negotiations, however, and a concerted effort will be required to bring each of them to a successful conclusion and to move on to even more far-reaching talks. In the mean time, the world's military forces remain large and costly, and are being modernized at a rapid rate. New technologies are being introduced, moreover, which threaten to create dangerous instabilities in several aspects of the military competition, while inhibitions against the use of particularly dangerous kinds of weapons, such as lethal chemical agents, appear to be breaking down. It is essential that the leading military Powers act decisively to conclude the current round of negotiations and to move on to more ambitious agreements.

43. The need for progress in arms negotiations extends to other regions. In the past several years, political dialogues have been initiated concerning regional conflicts in Central America, in the Persian Gulf, in South and East Asia, and in Africa. There have been positive developments in Sino-Soviet relations, in Kampuchea, between India and Pakistan, and between China and India, among other troubled relationships. Such a political dialogue is needed urgently for the Northern Pacific, as well, involving all regional States, including the leading military Powers. Negotiated limits on the size and structure of military forces, including naval forces, and on their operations, could contribute meaningfully to the resolution of each of these conflicts. Diplomacy and arms control must go hand-in-hand in the effort to bring peace throughout the world.

Reductions of strategic forces

44. In START, an agreement could be concluded within the year, but the negotiators must work hard to overcome the remaining major issues. Two questions are relatively technical, concerning how to verify limitations on mobile land-based missiles and sea-based cruise missiles. Without going into details here, it seems clear the possible solutions are understood by the two sides and within reach: we urge their rapid adoption.

45. The third issue is more a question of principle, concerning the relationship, if any, between the prospective START agreement on offensive forces and the existing Treaty Limiting Anti-Ballistic Missile Systems (ABMs). Although no specific action is required to maintain the 1972 ABM Treaty, which has an indefinite term, as a legal obligation,

questions have arisen about its duration as a result of research programmes in new ballistic missile defence technologies. In our view, the false promise of effective missile defences should not be permitted to disrupt either the ABM Treaty or the prospective START agreement. The overwhelming weight of scientific opinion is that there are no effective means of defending populations from ballistic missile attacks and that none is in prospect at least through the end of the century. Given this scientific reality, a mutual reaffirmation of the ABM Treaty would seem to be costless. Such a commitment, moreover, would help to reassure both the United States and the Soviet Union that the other would not suddenly abrogate the agreement and deploy extensive missile defences. The two might also discuss in specific terms the types of experiments in space that they each plan to undertake and their relationship to the Treaty's limitations. With such a formula governing research on defence technologies, the talks in START on offensive weapons could go forward rapidly and achieve the 50 per cent reduction envisioned in the current draft Treaty.

46. The negotiations between the leading military Powers cannot end with the current START Treaty, however, and the residual arsenals on the two sides would remain large. Future negotiators should seek even deeper reductions in nuclear forces and limitations on qualitative changes.

47. Another aspect of the strategic competition requiring attention concerns anti-satellite weapons. Through unilateral measures, the United States and the Soviet Union have stepped back from earlier efforts to deploy such systems. However, these arrangements are fragile. Outer space is one of the last commons of humanity. It should be protected from the arms race and utilized solely for peaceful purposes, including joint programmes. Weapons should be banned in their entirety, including the testing of weapons in space.

Arms reductions in Europe

48. We have reached an historical watershed in the history of Europe. The possibility exists to move beyond the military confrontation that has cemented and exacerbated the political division of Europe. The new Europe should be based on diversity and tolerance, an openness and a sense of cultural community, on economic co-operation and peaceful competition. Our approach to security in Europe should be enlightened by a broad vision of stability. The existing military confrontation should not be permitted to hamper the evolution of a more open and co-operative order in Europe. It is necessary to eliminate significant asymmetries, to reduce the levels of forces, to restructure forces to reduce the danger of surprise attack and offensive operations, and to reduce reliance on nuclear

weapons. Furthermore, provisions should be negotiated to ensure the progress towards stability is not undermined by technical and scientific developments that can be used for some forms of arms modernization. There is a need to institute a dialogue about force postures and doctrines relating to security in Europe, to prevent unilateral decisions from violating the idea of common security.

49. The seven years since our report was issued have been productive for gaining control of the military competition in Europe. In addition to the previously mentioned Treaty eliminating intermediate-range missiles, an agreement was concluded in Stockholm in 1986 to give prior notification of, and to exchange observers at, all military manoeuvres above a certain size, thus building confidence that such exercises were not being used to mask preparations for a surprise attack. The agreement permits inspections to be carried out on a challenge basis after short warning, a provision which contributes measurably to the agreement's success. Talks on additional confidence- and security-building measures involving 35 nations of Europe and North America are continuing.

50. New talks on conventional forces in Europe opened in Vienna in March. The 23 members of NATO and the Warsaw Pact are participating in these negotiations. The talks aim to establish a stable and secure balance of conventional armed forces at lower levels of armaments and equipment, and to eliminate disparities prejudicial to stability and security, especially the capability to launch surprise attacks or to initiate any large-scale offensive actions. Unlike their predecessor, the talks on Mutual and Balanced Force Reductions, which continued unsuccessfully in Vienna for 15 years, the new talks have the advantage of (i) including all members of the two military blocs, (ii) including all of Europe, from the Atlantic to the Urals, as the territory for agreed limits, and (iii) starting with the stated willingness of the participants to eliminate threatening asymmetries.

51. The new talks also will benefit from the precedents for intrusive verification procedures included in both the Stockholm agreement and the Treaty on Intermediate-range Missiles. Verification is no longer a political issue in any arms control negotiation: only technical questions about specific procedures remain to be resolved.

52. It is essential that the new Vienna talks not be permitted to become lost in a technical thicket, as befell their predecessor. The highest political authorities of each participant will have to pay continual attention and not permit the negotiations to drift. We believe that periodic meetings of the foreign and defence ministers of all the participants to review progress and set objectives would be useful to ensure that the negotiations continue to move forward.

53. The mandate for the new talks specifically excludes nuclear weapons. With implementation of the Treaty on Intermediate-range Missiles, the 7,000 to 8,000 nuclear weapons remaining in the combined arsenals of the two sides in Europe will consist primarily of tactical weapons, including ordnance that would be delivered by aircraft, warheads for short-range missiles, and nuclear-armed projectiles that would be fired by artillery. Both sides have modernized some of these weapons in recent years.

54. Short-range nuclear weapons cannot be omitted from arms control negotiations. We urge the two alliances to develop a framework and schedule to include them in negotiations. Such discussions could facilitate progress in both START and the Vienna talks on conventional forces, as well as benefit from progress in those negotiations. An agreement in Vienna, for example, could obviate the perceived military need for new types of short-range nuclear missiles.

55. Care must be taken, moreover, not to block progress in the talks already under way by decisions on modernizing short-range weapons. Military force planning should be based on a comprehensive concept of security which encompasses not only an assessment of military threats, but also an understanding of international political change and the possible outcomes of negotiations for disarmament. We urge the two alliances in Europe to eliminate the asymmetries in conventional force levels which stimulate perceived needs for modernizing short-range nuclear forces, and to move rapidly towards sharply reduced forces.

56. Since naval forces are not embraced by the existing negotiations, consideration should be given to constraints concerning naval forces in the Baltic in order to ensure that they do not undermine agreements about conventional stability on land in Europe.

57. In 1982, the Commission suggested that in the context of the establishment of parity and mutual reductions in conventional forces, it would be desirable to create a corridor free of nuclear weapons, starting in Central Europe and extending ultimately from the northern to the southern flanks of the two alliances. Nuclear munitions and their storage facilities would be prohibited within the corridor, perhaps 150 kilometres on each side of the border, as would operations and manoeuvres simulating the use of these weapons. We continue to support this proposal. As the Vienna negotiations progress, it may be advisable to expand the corridor concept to include not only nuclear weapons, but offensive types of conventional forces, such as armoured units, as well. Creation of areas along the East-West border, as an integrated part of a European agreement, in which only lightly armed forces could be stationed, could contribute sig-

nificantly to stability and a structure of forces that would make an attack unlikely.

Ridding the world of weapons of mass destruction

58. Abolishing all weapons of mass destruction must be considered the eventual goal. Much has to be accomplished before such a goal will be embraced by the nations of the world as an operational objective. The emergence of a régime of international law would be an important part of this process. Sustained progress towards conventional disarmament must take place simultaneously.

59. It is not sufficient to negotiate agreements specifying that certain kinds of weapons should be abolished. In addition, procedures for verifying such agreements with great confidence must be developed and institutionalized. Much will be done by individual nations utilizing national technical means. But multilateral institutions can play significant roles in verifying agreements, if they were provided with the resources to do so. Abolition régimes must also include national commitments to use all available sanctions against treaty violators and to make determined efforts to convince States that had been reluctant to ratify the agreement. Unless the international community demonstrates a willingness to ensure that disarmament agreements are accepted universally and scrupulously respected, resistance to the final abolition of weapons of mass destruction will prove overwhelming.

Maintaining the prohibition on biological weapons

60. More than 100 nations have already ratified the 1972 Biological Weapons Convention which, together with the 1925 Geneva Protocol, prohibits the development, production, stockpiling, possession and use of biological weapons. But neither the Convention nor the Protocol include verification procedures, depending on the then-perceived military disutility of such weapons and the common recognition of their extraordinary dangers to guarantee national restraint.

61. In recent years, developments in microbiology and biotechnology may have increased the potential military utility of biological weapons. Concerns have grown about possible violations of the existing agreements. There have been public reports during the past few months, for example, that one or more nations may already be manufacturing lethal biological agents for military uses. Whether these reports are accurate or not, a climate of mistrust is emerging with the potential to undermine the Convention.

62. The Convention provides that complaints about possible violations may be lodged with the Security Council; the parties are charged to co-operate with any investigation that may ensue. All parties should reaffirm their readiness to clarify any situation which raises official questions about compliance with the agreement, even before the question is taken before the Council. At the same time, thought should be given to means which could help to build further confidence in compliance. The next review conference must further elaborate such ideas as the exchange of information on laboratories and research centres that handle high-risk biological materials, means of allaying concerns arising from atypical outbreaks of disease and exchanges of visits to relevant facilities. Concerted efforts to induce additional States to ratify the Convention also should be organized.

63. The Biological Weapons Convention is the only existing concrete step towards the abolition of weapons of mass destruction. It must not be permitted to erode.

Abolishing chemical weapons

64. In the seven years since our report was published there has been a proliferation of chemical arms and a breakdown in inhibitions against their use. Lethal chemical agents were used repeatedly during the recent war between Iran and Iraq. The two leading military Powers maintain large stocks of lethal chemical agents. It is feared that as many as 20 nations may now either possess or be building lethal chemical weapons and some of these nations have or are developing ballistic missiles which could be used to deliver such munitions to distant targets.

65. At the same time, the negotiations in Geneva for a treaty that would prohibit the development, production, stockpiling, transfer and use of chemical weapons, and cause the destruction of existing stocks, have made considerable progress, with questions of how the agreement would be verified providing the most serious of the remaining stumbling blocks. Presidents George Bush of the United States and Mikhail Gorbachev of the Soviet Union have stated their commitment to completing the agreement on numerous occasions and, with continued high level attention, it may be possible to conclude the negotiations relatively quickly.

66. Such an accomplishment would only constitute a step towards the abolition of chemical weapons, however. A substantial period will be required during which existing stocks of lethal chemical weapons are destroyed and other nations induced to join the régime. During this period, an international institution will be established and specific procedures developed to verify compliance with the agreement. Concerted international efforts will be required to be certain that the agreement gains global

acceptance. Some nations, for example, have taken the position that chemical disarmament should proceed only in tandem with nuclear disarmament; they will have to be persuaded otherwise, lest the current opportunity to rid the earth of chemical arms be lost.

67. Establishment of a régime to abolish chemical weapons is important in its own right, of course. But it gains even greater significance when understood as a precedent for the eventual abolition of nuclear weapons. The experience of negotiating and implementing the Chemical Weapons Treaty will have an important impact on the prospects for the total abolition of nuclear weapons.

Abolishing nuclear weapons

68. Conclusion of a START treaty, along with reaffirmation of the ABM Treaty, would be major steps towards the goal of abolishing all nuclear weapons. Further progress towards that goal will depend on movement in other negotiations, the talks on conventional forces in Europe being the most important.

69. A number of further steps could move the world towards nuclear disarmament.

Comprehensive test ban

70. Conclusion of a comprehensive test ban would indicate very clearly that the leading military Powers were sincere in their determination to eliminate nuclear weapons from the face of the earth. It would strengthen the régime against the proliferation of nuclear arms and help curtail the development of advanced nuclear weapons and their delivery systems.

71. The United States and the Soviet Union should declare an immediate moratorium on all nuclear tests above a very small yield, say, one kiloton, to last for at least two years. The nuclear Powers understand how to monitor such a moratorium with high confidence. During this period, negotiations should be held to complete formal agreement on a comprehensive and permanent end to nuclear testing. The verification issue no longer constitutes an obstacle to the conclusion of a test-ban treaty. It is now strictly a matter of political will.

Denuclearizing the navies of the world

72. It may be timely for the nations that deploy tactical nuclear weapons at sea to begin discussing means of abolishing them. These weapons may include certain kinds of anti-submarine devices, anti-aircraft missiles, anti-ship missiles and ship-to-shore missiles. They necessitate extensive security arrangements and sometimes provoke adverse popular reactions

with a possibility of restrictions on ports which will accept ship visits. In so far as the greater performance of modern sensors and command and control systems has overtaken the original justification for these weapons, the nations deploying them may find it in their own self-interest to consider means of prohibiting or curtailing their potential deployment. One way to approach the issue would be to prohibit all nuclear weapons on all ships and submarines other than classes specifically designated by agreement. Such an agreement could have the additional benefit of facilitating negotiations on sea-based cruise missiles in the START talks.

Stemming nuclear proliferation

73. Achievement of a comprehensive nuclear-test ban is linked inextricably to the problem of nuclear proliferation. A prohibition on nuclear tests would make it more difficult for additional nations to develop nuclear weapons and for those States already on the threshold of nuclear-weapon capabilities to develop more advanced designs suitable for military applications. A halt to nuclear testing also is at the heart of the mutual pledges between nuclear and non-nuclear-weapon States in the 1970 Treaty on the Non-proliferation of Nuclear Weapons. In 1995, the parties to that agreement are required to decide whether that Treaty should be extended indefinitely, or continued in force for fixed periods of time. Unless tangible progress is made towards achievement of a comprehensive test ban and convincing progress made in reducing nuclear forces, the continued existence of the Treaty itself could be threatened.

74. In addition to the United States and the Soviet Union, there are three nations with declared nuclear-weapon stocks (Britain, China and France). As the leading military Powers' stockpiles are reduced in size, the three other declared nuclear Powers will have to be brought into negotiations. Each of these countries has indicated a willingness to take part in such talks following substantial reductions in the arsenals of the leading military Powers.

75. Six additional countries are believed to have nuclear weapons or to be on the threshold of such capabilities (Argentina, Brazil, India, Israel, Pakistan and South Africa). Arrangements also will have to be made concerning these near-nuclear Powers. Argentina and Brazil have initiated a bilateral process of declarations and exchanges of visits to nuclear facilities in recent years. India and Pakistan recently signed an agreement to forebear from attacks on each other's nuclear facilities. Certain nuclear facilities in all four countries, however, as well as in Israel and South Africa, remain outside any nuclear non-proliferation régime. Efforts should be made to induce these countries (and others with nuclear indus-

tries that remain outside the existing non-proliferation régime) to help impede further nuclear-weapons proliferation.

76. As the world moves towards the abolition of nuclear weapons, the international community will have to co-operate to bring pressure to bear on all nations to submit all their nuclear facilities, without exception, to international inspection and safeguards. Nuclear disarmament will not be possible in the absence of an effective international régime, including the declaration of all nuclear-weapon stocks and nuclear facilities, the effective verification of such declarations, the comprehensive destruction of nuclear weapons in all countries under strict international controls and the creation of effective international institutions and procedures to ensure that nuclear weapons are never again built. The operational need for such institutions and procedures is no doubt far in the future. But the possibility of the abolition of nuclear weapons will not be taken seriously until effective means of verifying the destruction of nuclear stocks and production facilities and ensuring that they could not be quickly reintroduced are designed and accepted on a global basis.

Common security through economic development, social justice and protection of the Planet

77. Common security cannot be achieved through military strength, or even through disarmament and the traditional concept of collective security.

78. Security cannot in any real sense be said to exist at a personal or national level in a condition of chronic underdevelopment. Poverty itself is insecurity. For the individual, poverty is insecurity because of the fear of hunger, disease and early death that afflicts the hundreds of millions who live on the margins of existence in subsistence agriculture and urban slums. For the nation State, poverty is insecurity because of the lack of control over unstable and adverse external events in commodity and capital markets; the inability to afford basic public expenditures; the dependence on external financial flows with its attendant conditionalities; and the inequality of bargaining power which affects external economic relationships. Poverty itself can lead to internal and external conflict.

79. Peace and security as proclaimed in the Charter of the United Nations as primary international goals cannot therefore be fully realized unless people and nations are released from the trap of poverty through real development. In truth, far more people in the world today suffer from economic than from military insecurity. Yet the resources devoted by the international community to development assistance are very small compared with military spending. Moreover, co-operation for common security

is unlikely in a world where many poor countries face extremely onerous debt obligations, decreasing resources for economic development and widening disparities between rich and poor countries.

80. International economic insecurity is not solely a matter of concern to poor countries. Serious threats are posed to the whole global economy by such elements of instability as trade protectionism, exchange rate instability, large economic imbalances and lack of effective multilateral economic management. Poor countries are the main victims, but not the only victims, of an international economy characterized by such high levels of insecurity.

81. Similarly, growing poverty has implications for the global community as a whole as it spills over from the developing world through enforced migration, various forms of political and religious extremism and such manifestations as the drug trade. All countries have an interest in ensuring that the concept of collective security embraces effective actions to end global poverty.

82. Insecurity could originate too from environmental disturbances. Evidence is growing that certain kinds of development are undermining natural systems and threatening widespread social disruption. Poverty and environmental destruction interact to create a downward spiral of activity that can result in migrations of environmental refugees, the spread of deserts and deforested zones, and conflicts over water and watershed use. Pollution has an increasingly cross-border character—as with acid rain and nuclear contamination. Some of the global environmental commons which are the responsibility of the international community as a whole—the oceans, Antarctica, the atmosphere and space—face serious problems unless multilaterally agreed, equitable rules can be collectively applied. Some environmental challenges are world-wide in scale, such as the threat to the ozone layer and the possibility of global warming. Climate change could have far-reaching effects on patterns of settlement and economic organization. The interaction of poverty, military conflict, and environmental destruction in parts of Africa illustrates in an extreme form the cumulative nature of the threats these problems could pose, if not addressed, and the multifaceted character of security. More effective international structures to deal with environmental problems are required, at both the regional and the global level. They should bolster and expand, but include the important efforts of the United Nations Environment Programme. New institutional authorities within the United Nations and the various regional and subregional organizations should be established in order to come to grips with the problem of environmental security.

83. Political oppression and the denial of human rights is a further source of international conflict. Fundamental human rights are guaranteed to all peoples by many international treaties and other documents. These solemn undertakings to protect individual freedoms and the rights of minorities and to treat all peoples humanely and decently, need to be implemented rigorously by all nations if the sources of international conflict are to be abolished. As a Commission, and as individuals, we particularly deplore the continued oppression and inhumane treatment of the majority of the population in South Africa. The international community must work tirelessly to correct this manifestly unjust situation.

84. The processes of political and military change we have described previously—the emergence of the rule of law and progress towards the abolition of weapons of mass destruction and conventional disarmament—would in themselves provide considerable momentum for economic and social development and environmental protection. But the relationship between disarmament and development will only be interactive and mutually reinforcing if nations have the political will to make it so. The present moment of international opportunity must be used to begin such an interactive process. There is, after all, considerable experience in the conversion of military to civilian production. The period immediately following the signing of the Charter of the United Nations in 1945 was one of rapid and successful economic conversion in both the United States and the Soviet Union—a conversion which made possible rapid economic growth in both countries for a time, even though it was not transformed into a co-operative, reinforcing process.

85. Progress towards the resolution of international conflicts and towards arms control and disarmament in the 1990s should be exploited to divert scientific and technical resources from military to environmental and economic purposes. Weapons programmes utilize skills—in computer and communications technologies, in atmospheric and ocean research, in energy physics, to name just a few—which are urgently needed for economic development. New technologies could permit developing nations to "leapfrog" over entire stages of industrial technology which are highly destructive of the environment. Satellites and space technology are needed not only to verify arms control agreements, but for environmental monitoring. Biological research should be utilized not for military purposes, but to eradicate disease, to improve the environment and to provide the food so desperately needed in parts of the world.

86. Common security imposes global obligations to end economic insecurity no less than political conflict and war. The Brandt Commission on International Development Issues and the Brundtland Commission on

Environment and Development have pointed the way forward. We urge the international community to pursue the paths they have marked out.

87. Many obstacles must be surmounted as the current sense of international opportunity is turned into concrete achievements. International hostilities and suspicions derived from decades of conflict and warfare cannot be erased overnight. But as they fade into history, a far better world—one with far less violence and far greater security for all—can be created. Common security can be transformed from an idea, a concept, into the common condition of human beings everywhere. New forms of international co-operation, going beyond the present international structure, may well be needed. What is required to make this a reality is nothing more and nothing less than continued concerted efforts involving the entire community of nations. As we bring to a close our work as the Palme Commission, we look forward to this future, not only with hope but with confidence.

Government-Industry Conference against Chemical Weapons: Summary Statement by the Chairman

Canberra, 22 September 1989*

I. Introduction

1. This Conference has been a unique event, bringing together not only Governments, which have the responsibility for negotiating and implementing the forthcoming chemical weapons convention, but also representatives of the world's chemical industry, who will be directly affected by its implementation.

2. Building on the Paris Conference Declaration of January 1989, and in particular its call for a redoubling of effort to conclude the convention at the earliest date, government and industry representatives have come together to reinforce and give new momentum to a dialogue that is crucially necessary for two purposes:

a To assist in the resolution of technical issues and the identification of workable and realistic solutions to other outstanding problems, to enable the early conclusion of the Convention;

b To convey a clear understanding of the industry's concerns, and an appreciation of how the chemical weapons convention will impact on the industry, so as to ensure not only speedy conclusion of the convention, but its effective practical implementation.

3. This Conference has been the occasion for a number of important developments, including:

a The first collective statement by the world's chemical industry of its commitment to assist Governments in bringing about a total ban on chemical weapons through a comprehensive chemical weapons convention;

b Extensive dialogue between Governments and industry on issues relating to both the conclusion and implementation of the treaty, and detailed exploration of ways of progressing that dialogue in the future;

---

* A/C.1/44/4.

c The identification of a number of measures in support of the objectives of the chemical weapons convention, which both Governments and industry are either implementing, or have indicated a willingness to consider, in advance of its coming into effect;

d A renewed expression of commitment by Governments to conclude and implement a comprehensive chemical weapons convention at the earliest date.

4. There was at the Conference clearly evident total support for the achievement of a chemical weapons convention of comprehensive scope, which would be effective, verifiable and workable in practice, non-discriminatory in impact and attract universal adherence. It was acknowledged that no interim régime could be a substitute for such a convention. The long quest for a comprehensive, global and effectively verifiable ban on chemical weapons, to which we are all firmly committed, has been brought closer to realization by the assembly here in Canberra of the relevant diplomatic skills and industrial expertise needed to complete and implement the chemical weapons convention.

II. Concluding the Convention

5. The conceptual framework of the convention is already substantially settled, and many of its detailed provisions have already been elaborated. In bringing the convention to conclusion, 1990 is seen by most delegations as a critical year. I have clearly discerned in the contributions of all delegations both the political and practical will to work through and resolve, as fast as the complexity of the subject matter allows, remaining outstanding issues in the convention negotiations. The general view is that the major substantive issues for negotiation should be able to be completed within the coming year.

6. Much of the discussion at the Conference focused on those issues whose resolution could clearly benefit from industry input and co-operation, in particular:

a Verification régimes;

b Protection of confidential commercial information;

c Structure of the international authority and its relationship through national authorities with chemical industries;

d Technical questions in relation to the destruction of existing stockpiles and production facilities;

e Within the convention context, promotion of the free and non-discriminatory exchange of chemicals and technology only for peaceful purposes, and assistance to developing States parties.

7. In order to assist in the process of resolving outstanding issues,

many countries have brought to the negotiations their own national experience with various matters relevant to the convention, and these were reported to the Conference. These exercises have enabled the outstanding issues to be considered from a very practical perspective, and have helped give a better understanding of what is required under the convention. In particular:

a A number of countries have conducted national trial inspections, and others are planning to do so;

b Other countries have been conducting, or are planning to conduct, trial challenge inspections.

8. It was recognized that the negotiating environment for an early conclusion of the convention would be significantly enhanced by Governments being as frank and open as possible in their approach to chemical weapons issues, bringing their activities into conformity with their commitment to the convention, and by taking other specific steps—in the period before the Convention is concluded—to increase confidence in it. Such steps could include:

a Acknowledgement of their chemical weapons stocks by weapons-possessing states;

b Bilateral and multilateral data exchanges as provided for in the rolling text: information could be provided on chemical weapon stockpiles, chemical weapon production facilities, chemical weapon destruction facilities, and production of chemicals included in schedules 1, 2 and 3;

c Trial inspections of stockpiles and production facilities on a bilateral and multilateral basis;

d Establishing facilities to allow for the environmentally sound destruction of chemical weapon stocks, and exchanging the technology relevant to this process;

e Taking steps to eliminate existing chemical weapon stockpiles;

f Making unequivocal undertakings not to acquire chemical weapons and acting accordingly, as part of exercising restraint and acting responsibly in accordance with the purpose of the Geneva negotiations;

g Informing Governments outside the Conference on Disarmament on the negotiations for a chemical weapons conference (as has been done, e.g., by the Chairman of the *Ad Hoc* Committee, and through Australia's Regional Initiative).

III. Implementing the Convention

9. The effectiveness of the convention will be maximized by the adherence of all States, and there were many calls for Governments to work actively towards that objective. The convention will provide equal

security benefits to its adherents, and the value of those benefits will be strengthened by widespread support. At the same time, the operation of the chemical weapons convention will assure industry that its products can readily be traded and distributed on a non-discriminatory basis for purposes not prohibited by the convention. The convention will provide for equal treatment for all countries and all industrial entities. All Governments and their industries have a strong interest in confirming that these objectives are realized in practice.

10. A number of countries are already implementing in advance some of the provisions of the draft convention, adapting existing national measures to the convention framework, or adopting other measures which will assist in its implementation. For example, in addition to the trial inspections already referred to, Governments are:

a Establishing the framework for the national authorities which will implement the convention (e.g., the decision of Australia to establish its national chemical weapons convention authority and the interest of others in doing likewise);

b Establishing technical assistance programs for the identification and training of personnel who might be required to carry out the obligations of the convention (e.g., the program established by Finland);

c Legislating to prohibit certain activities which will be proscribed under the convention (e.g., the Federal Republic of Germany's recent amendments to the War Weapons Control Act).

Developments of this kind will contribute momentum to the negotiations, and will help avoid misapprehensions and delays in implementing the convention. Taking such measures will also contribute to a collective understanding of the extent to which the convention can be implemented within the existing operations of Governments and industry.

11. It was proposed that all nations should consider the mechanisms they will need to put in place to implement the convention's requirements. Since the impact of the convention will vary considerably according to differing circumstances, special attention will need to be paid to the concerns of those countries with small or non-existent industries, or whose bureaucracies may require technical assistance in handling the complex requirements of the convention.

12. It was also proposed by some delegations that consideration be given to establishing a group or groups which could form the nucleus of the technical secretariat to be established under the Convention, contribute to the resolution of certain outstanding issues in the negotiation of the convention, or both; this is a matter which will need to be taken up in Geneva.

IV. Industry's Role

13. The effective implementation of the precise mechanisms to achieve the Convention and its objectives will depend to a significant extent on the co-operation and commitment of the chemical industry. At this Conference the industry has made very clear its support for the conclusion of a Convention, that it believes such a convention will in fact be in its own interests, and that it wants to help make that convention as effective and practicable as possible. The statement adopted this week by the representatives of the world's chemical industry is an especially important and historic one. It:

a Expresses their unequivocal abhorrence of chemical warfare;

b Expresses their willingness to work actively with Governments to achieve a global ban on chemical weapons and contribute additional momentum to the Geneva negotiating process;

c Affirms their desire to foster international co-operation for the legitimate civil uses of chemical products and their opposition to the diversion of industry's products for the manufacture of chemical weapons;

d Declares their support for efforts to conclude and implement the chemical weapons convention at the earliest date.

14. The chemical industry representatives here present have also announced this week the establishment of a new international industry forum as a focal point for its essential practical input into the convention-making and implementation process. The group will meet in Geneva and involve an extension of present informal arrangements so as to include representatives of all the world's chemical industries, not just the developed countries.

15. The role which the chemical industry has played in promoting the economic development and improving the living standards of all peoples was frequently mentioned, and acknowledged by Government representatives. It is clear that the industry wishes to continue vigorously to pursue its positive contribution to the raising of the quality of life of the people of all nations by the development of its products and their proper dissemination and use.

16. It was noted during the Conference that while the regulatory burden of the Convention on industry would be significant, it would not be significantly different in kind from that which the industry already experiences. There are in many countries areas of extensive interaction between Governments and the chemical industry. Examples include:

a National reporting arrangements for environmental, health, safety and transport reasons;

b National inspections of the chemical industry for these purposes;

c Consultation and co-operation in establishing the facts of industry activity.

In view of these already existing national measures, and new steps announced at the Conference, many parts of the industry will be well aware of the general kinds of requirements which will have to be addressed under a convention régime. Both Government and industry representatives accepted the desirability of very substantial consultations occurring in the period ahead to ensure that common objectives are achieved in the least costly and intrusive manner possible.

17. Preparations for the implementation of the convention will entail specific actions by Government and industry. At this Conference, a number of such matters specifically involving industry have been raised, including:

a The need by Governments for additional inputs from all sections of industry, including policy-level direction, management, technical experts and the research community;

b The need for a more substantial time commitment by representatives of industry to the Geneva negotiating process, and in particular extension of the formal sessions presently devoted to industry consultation;

c The need to include workers and their representatives as part of the industry resource for Governments as they draft and implement the convention;

d The need for more trial inspections, and trials to prepare for other aspects of implementing the convention's requirements, such as the collection and assembly of relevant data about the characteristics of the national chemical industry;

e The need for industry to apply its code of responsible care so as to ensure, amongst other things, the compatibility of its activities with objectives of the convention, including the objective, shared with Governments, of non-diversion of its products for the manufacture of chemical weapons.

V. Conclusion

18. This Conference has not been a substitute for, or an alternative to, the negotiations on a chemical weapons convention at the Conference on Disarmament at Geneva. What we have endeavoured to do, and I believe succeeded in doing, is contribute to the early success of those negotiations. There was widespread support for continuing and expanding the dialogue between Government and industry both at the national level and in direct support of the negotiating process at Geneva. The Conference heard many calls for the earliest completion and implementation of the

chemical weapons convention. The chemical industry stated its full and unequivocal support for such an outcome.

19. The tasks ahead for Governments are:

a To work for the earliest conclusion of the negotiations at Geneva;

b To build confidence in the convention through initial steps;

c To develop appropriate mechanisms to prepare for, and, when ready, to implement the chemical weapons convention;

d To continue and expand the dialogue with industry with the objective of both resolving outstanding questions in the Geneva negotiations and preparing the ground for the effective practical implementation of the convention once concluded.

20. The tasks ahead for industry are:

a To consider the detailed requirements for the conclusion and implementation of the chemical weapons convention and to continue to expand its dialogue between Government and industry;

b To help to define practical, workable and effective solutions to outstanding problems being addressed in the Geneva negotiations;

c To co-operate in ensuring that their products are not diverted for the manufacture of chemical weapons;

d To collaborate with Governments and with other sections of the industry in ensuring that the chemical weapons convention's provisions are implemented fully and effectively and apply equally to all parties: industry representatives at the Canberra Conference will no doubt wish to be in contact with those elements of the industry not physically present here to discuss with them in detail the issues raised at this meeting.

21. Above all else, the Government-Industry Conference against Chemical Weapons has affirmed the commitment of Governments and the world's chemical industry to work together to bring to fruition at the earliest date a comprehensive, global chemical weapons convention—long intensely desired, and now widely anticipated—which will operate to rid the world once and for all of these universally detested weapons. All of us want a chemical industry operating in the cause not of death, but of life.

Joint United States-Soviet Statement on Chemical Weapons
Jackson Hole, 23 September 1989*

During their meeting on 22 and 23 September 1989 at Jackson Hole, Wyoming, Secretary of State James A. Baker, III, and Foreign Minister Eduard A. Shevardnadze reaffirmed the commitment of the United States of America and the Union of Soviet Socialist Republics to pursue aggressively the prohibition of chemical weapons and the destruction of all stockpiles of such weapons on the basis of a comprehensive, effectively verifiable and truly global ban. Both sides consider the early conclusion and entry into force of a convention to this effect to be one of the highest priorities for the international community. They believe that with the active and constructive participation of all States it will be possible to resolve expeditiously the remaining issues and to conclude the convention at the earliest date, and call upon all parties to the negotiations to join them in achieving this objective.

The two sides also believe that greater openness between them and among other countries could contribute to the prospects for reaching an early agreement on an effective ban on chemical weapons. As a concrete expression of the commitment of their two countries toward this end, the Secretary of State and the Foreign Minister signed a memorandum of understanding regarding a bilateral verification experiment and data exchange. The steps agreed upon in the Memorandum are intended to facilitate the process of negotiation, signature and ratification of a comprehensive, effectively verifiable and truly global convention on the prohibition and destruction of chemical weapons.

The verification experiment and data exchange will be conducted in two phases. Phase I involves the exchange of general data on the sides' chemical weapons capabilities and a series of visits to relevant military and civil facilities on their respective territories. In phase II the sides will exchange detailed data and permit on-site inspections to verify the accuracy of the information exchanged.

The sides also agreed to undertake a co-operative effort with respect to the destruction of chemical weapons. They agreed to reciprocal visits to monitor destruction operations of the other side, and to the exchange of information on past, current and planned destruction activities and procedures.

---

* A/C.1/44/2.

The sides noted their agreement on some procedures for conducting challenge inspections and on the provisions governing the order of destruction of chemical weapons and of chemical weapons production facilities. These two approaches will be introduced into the multilateral negotiations at Geneva in an effort to contribute to those negotiations. They also stressed the need to concentrate in the near future on resolving remaining verification-related issues. The two sides intend to pursue intensively their bilateral discussions on a chemical weapons ban with the view to helping to achieve further progress in the multilateral negotiations.

The Secretary of State and the Foreign Minister expressed their grave concern about the growing danger posed to international peace and security by the risk of the illegal use of chemical weapons as long as such weapons exist and are spread. They reaffirmed the importance of, and their commitment to, the final declaration of the Paris Conference on the prohibition of chemical weapons held earlier this year as well as their commitment to the 1925 Geneva Protocol. The two sides emphasized the obligation of all States not to use chemical weapons in violation of international law and urged that prompt and effective measures be taken by the international community if that obligation is violated. In this regard, they underscored their support for the Secretary-General of the United Nations in investigating reports of violations of the Geneva Protocol or other relevant rules of customary international law.

The sides welcomed Australia's convening of a government-industry conference against chemical weapons, which has just concluded at Canberra. They noted that the conference had provided an important opportunity for serious discussion between government and industry representatives from around the world. The sides expressed satisfaction with the extensive and productive work accomplished at the conference and the positive results reflected in the Chairman's final summary statement.

Finally, the sides expressed the view that a truly global, comprehensive and effectively verifiable ban on chemical weapons was the best means to address the threat posed by the spread of chemical weapons on a durable long-term basis. In the mean time, the sides emphasized their readiness to attempt to prevent the proliferation of chemical weapons. They intend to continue consultations on this issue.

Final Declaration of the Third Review Conference of the Parties to the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof*

Geneva, 28 September 1989

Preamble

The States Parties to the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof which met in Geneva in September 1989 in accordance with the provisions of Article VII to review the operation of the Treaty with a view to assuring that the purposes of the preamble and the provisions of the Treaty are being realized:

Recognizing the continuing importance of the Treaty and its objectives,

Recalling the Final Declaration of the First Review Conference of the Parties to the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof held in Geneva from 20 June to 1 July 1977, as well as the Final Declaration of the Second Review Conference of the Parties to the Treaty held in Geneva from 12 to 23 September 1983,

Affirming their belief that universal adherence to the Treaty and particularly adherence by those States possessing nuclear weapons or any other weapons of mass destruction would enhance international peace and security,

---

* SBT/CONF.III/15.

Recognizing that an arms race in nuclear weapons or any other types of weapons of mass destruction on the sea-bed would present a grave threat to international security,

Recognizing also the importance of negotiations concerning further measures in the field of disarmament for the prevention of an arms race on the sea-bed, the ocean floor and the subsoil thereof,

Considering that a continuation of the trend towards a relaxation of tension and an increase of mutual trust in international relations would provide a favourable climate in which further progress can be made towards the cessation of the arms race and towards disarmament,

Reaffirming their conviction that the Treaty constitutes a step towards the exclusion of the sea-bed, the ocean floor and the subsoil thereof from the arms race, and towards a treaty on general and complete disarmament under strict and effective international control,

Emphasizing the interest of all States, including specifically the interest of developing States, in the progress of the exploration and use of the sea-bed and the ocean floor and its resources for peaceful purposes,

Affirming that nothing contained in the Convention on the Law of the Sea of 10 December 1982 affects the rights and obligations assumed by States Parties under the Treaty,

Taking note of the information concerning the informal meeting held in 1989 under the auspices of the Conference on Disarmament as well as the communications from the Depositary Governments and other States,

Appealing to States to refrain from any action which might lead to the extension of the arms race to the sea-bed and ocean floor, and might impede the exploration and exploitation by States of the natural resources of the sea-bed and ocean floor for their economic development,

Declare as follows:

Purposes

The States Parties to the Treaty reaffirm their strong common interest in avoiding an arms race on the sea-bed in nuclear weapons or any other types of weapons of mass destruction. They reaffirm their strong support for the Treaty, their continued dedication to its principles and objectives and their commitment to implement effectively its provisions.

Article I

The review undertaken by the Conference confirms that the obligations assumed under Article I of the Treaty have been faithfully observed by the States Parties. The Conference is convinced that the continued observance of this Article remains essential to the objective which all States Parties share of avoiding an arms race in nuclear weapons or any other type of weapons of mass destruction on the sea-bed.

Article II

The Conference reaffirms its support for the provisions of Article II which define the zone covered by the Treaty. The Conference agrees that the zone covered by the Treaty reflects the right balance between the need to prevent an arms race in nuclear weapons and any other types of weapons of mass destruction on the sea-bed and the right of States to control verification activities close to their own coasts. All States Parties to the Treaty confirm that they have not emplaced any nuclear weapons or other weapons of mass destruction on the sea-bed outside the zone of application of the Treaty as defined by its Article II and have no intention to do so.

Article III

The Conference notes with satisfaction that no State Party has found it necessary to invoke the provisions of Article III, paragraphs 2, 3, 4 and 5, dealing with international complaints and verification procedures. The Conference considers that the provisions for consultation and co-operation contained in paragraphs 2, 3 and 5 include the right of interested States Parties to agree to resort to various international consultative procedures. These procedures could include *ad hoc* consultative groups of experts in which all States Parties could participate, and other procedures. The Conference stresses the importance of co-operation between States Parties with a view to ensuring effective implementation of the international consultative procedures provided for in Article III of the Treaty, having regard also for the concerns expressed by some States Parties that they lack the technical means to carry out the verification procedures unaided.

The Conference reaffirms in the framework of Article III and Article IV that nothing in the verification provisions of this Treaty should be interpreted as affecting or limiting, and notes with satisfaction that nothing in these provisions has been identified as affecting or limiting, the rights of States Parties recognized under international law and consistent with their obligations under the Treaty, including the freedom of the high seas and the rights of coastal States.

The Conference reaffirms that States Parties should exercise their rights under Article III with due regard for the sovereign rights of coastal States as recognized under international law.

Article IV

The Conference notes the importance of Article IV which provides that nothing in this Treaty shall be interpreted as supporting or prejudicing the position of any State Party with respect to existing international conventions, including the 1958 Convention on the Territorial Sea and Contiguous Zone, or with respect to rights or claims which such State Party may assert, or with respect to recognition or non-recognition of rights or claims asserted by any other State, related to waters off its coast, including, *inter alia*, territorial seas and contiguous zones, or to the sea-bed and the ocean floor, including continental shelves. The Conference also noted that obligations assumed by State Parties to the Treaty arising from other international instruments continue to apply.

Article V

The Conference reaffirms the commitment undertaken in Article V to continue negotiations in good faith concerning further measures in the field of disarmament for the prevention of an arms race on the sea-bed, the ocean floor and the subsoil thereof.

The Conference notes that negotiations aimed primarily at such measures have not yet taken place. Consequently, the Conference again requests that the Conference on Disarmament, in consultation with the States Parties to the Treaty, taking into account existing proposals and any relevant technological developments, proceed promptly with consideration of further measures in the field of disarmament for the prevention of an arms race on the sea-bed, the ocean floor and the subsoil thereof.

At the same time, the Conference notes that other arms limitation and disarmament negotiations on measures with wider application that will contribute to the general objectives of the Treaty have been completed, are under way or are contemplated, and will, when successfully implemented, contribute to the effectiveness of the Treaty.

Article VI

The Conference notes that over the 17 years of the operation of the Treaty no State Party proposed any amendments to this Treaty according to the procedure laid down in this Article.

Article VII

The Conference notes with satisfaction the spirit of co-operation in which the Third Review Conference was held.

The Conference, recognizing the importance of the review mechanism provided in Article VII, and having considered the question of the timing of the next Review Conference and the necessary preparations thereto, decides that the Fourth Review Conference shall be convened in Geneva, in principle not earlier than 1996, at the request to the Depositary Governments of a majority of States Parties to the Treaty, if they consider that relevant developments make this advisable. If the Fourth Review Conference is not convened in 1996, the Depositary Governments shall solicit the views of all States Parties to this Treaty on the holding of the Conference in 1997. If 10 States Parties so request, the Depositary Governments shall take immediate steps to convene the Conference. If there is no such request, the Depositary Governments shall resolicit the views of States Parties at three-year intervals thereafter.

The Conference takes note of the fact that no information has been presented to it indicating that major technological developments have taken place since 1983 which affect the operation of the Treaty. The Conference, nevertheless, recognizes the need to keep such developments under continuing review, and the importance of relevant information in assisting States Parties to decide on the timing of the Fourth Review Conference.

To this end the Conference requests the Secretary-General of the United Nations to report by 1992, and every three years thereafter until the Fourth Review Conference is convened, on technological developments relevant to the Treaty and to the verification of compliance with the Treaty, including dual purpose technologies for peaceful and specified military ends. In carrying out this task the Secretary-General should draw from official sources and from contributions by States Parties to the Sea-Bed Treaty, and could use the assistance of appropriate expertise. The Review Conference urges all States Parties to the Treaty to assist the Secretary-General by providing information and drawing his attention to suitable sources.

Article VIII

The Conference notes with satisfaction that no State Party has exercised its rights to withdraw from the Treaty under Article VIII.

Article IX

The Conference reaffirms its conviction that nothing in the Treaty affects the obligations assumed by States Parties to the Treaty under international instruments establishing zones free from nuclear weapons.

Article X

The Conference stresses that the 17 years that have elapsed since the date of entry of the Treaty into force have demonstrated its effectiveness. At the same time, the Conference notes with concern that the goal of the Parties that the Treaty should enjoy universal acceptance has not yet been achieved.

The Conference welcomes the adherence of 10 States to the Treaty since the Second Review Conference, thus bringing the total number of Parties to 82. The Conference calls upon the States that have not yet become Parties, particularly those possessing nuclear weapons or any other types of weapons of mass destruction, to do so at the earliest possible date. Such adherence would be a further significant contribution to international confidence.

Recent Books and Articles

Further Publications

Chronicle of Disarmament Activities

Recent Books and Articles

Bhansali, S. R., ed.
Peace and Disarmament
Jodhpur, Faculty of Law, University of Jodhpur,
1987. 532 p.

This volume consists of four parts. Part I contains 17 research papers, prepared by professors, politicians, scientists and administrators mainly from India, that were presented at a symposium on disarmament organized by the Faculty of Law of the University of Jodhpur. Part II features several articles on the work of the United Nations in the field of peace and disarmament. Part III includes statements on disarmament by representatives of 19 States. Part IV deals with the effects of nuclear war, such as "nuclear winter".

Blackwill, Robert D. and F. Stephen Larrabee, eds.
Conventional Arms Control and East-West Security
Institute for East-West Security Studies,
Durham, Duke University Press, 1989. 491 p.

This volume, sponsored by the Institute for East-West Security Studies, brings together papers originally presented at a symposium held in Moscow in December 1988, analysing key issues concerning conventional arms control.

On the whole, the essays in this book are an indication of the difficulties that East and West will have to face in the years ahead to develop together a set of political goals for the whole of Europe. Although the present efforts to negotiate a conventional arms control agreement in Europe are taking place in the context of a much improved and more stable security environment, the editors stress that "it is crucial for the political level from Moscow to Washington to stay closely involved with this revitalized effort to reduce fairly conventional forces on the continent". If Eastern and Western leaders were to lose interest in that endeavour, they warn, it is improbable that experts, no matter how well intentioned, would produce an accord.

Campbell, David
The Social Basis of Australian and
New Zealand Security Policy
Canberra, Australian National University,
1989. 103 p.

This monograph by a research scholar at the Australian National University seeks to detail the social basis of Australian and New Zealand security policy as a means of accounting for recent policy changes in the nuclear field. As the author cautions in his conclusion, his analysis does not claim to have found what has determined Australian and New Zealand security policy, but rather what has *constituted* it. As he says, politics is not the outcome of mechanical processes, which can be predicted with certainty: "Any change in actors, or their environment, or their understanding of their situation opens up the potential for change in policy."

Codita, Cornel
"Incidences de la course aux armements
sur les pays en voie de développement"
Revue Roumaine d'Etudes Internationales XXIII
(Bucarest), May-June 1989, pp. 243-258.

In his article, Cornel Codita discusses the impact of the arms race on the developing countries. He provides an overview of the history of the arms race and explains how the developing countries became dependent on the super-Powers because of it. He describes the mechanism of international arms transfers and shows that of the 96 States involved in armed conflicts since 1945, only 12 have the capacity to produce weapons on their own. He concludes that disarmament measures should be shaped within a plan of action for reducing the harmful effects of armament and eliminating at the same time the social and political causes which lead to the arms race.

Comisión Sudamerica de Paz (South American Commission for Peace), international seminar "Seguridad Democrática Regional: una Concepción Alternativa de Seguridad" (Regional democratic security: an alternative conception of security), 23-26 March 1988, Santiago de Chile, 3 working papers:
Borón, Atilio
Europa y América Latina: intereses político estratégicos (Europe and Latin América: politico-strategic interests), 38 p.
Maira, Luis
Los intereses políticos y estratégicos de Estados Unidos en América del Sur (The political and strategic interests of the United States in South America), 55 p.
Yopo, Boris
América del Sur en los nuevos lineamientos de la política exterior soviética (South America in the new trends in Soviet foreign policy), 46 p.

Atilio Borón analyses past, present and future political, economic and cultural relations between Europe and Latin America. Believing that Central America, the South Atlantic and Antarctica are of strategic importance to both Latin America and Europe, he points out the need for interregional dialogue and co-operation.

Luis Maira analyses in his paper the United States involvement in South America. The study shows how American policy has worked on two levels in South America. On one level the United States has a regional interest in influencing inter-American relations and, on the other level, it tries to increase its influence in the developing world globally through its involvement in Latin America.

Boris Yopo reviews Soviet foreign policy in relation to Latin America, stating that it is being shaped by the politics of *perestroika* and *glasnost*. According to Yopo, the Soviet Union is concerned with distinguishing its policy from that of the United States and the West *vis-à-vis* the arms race, negotiations as a means of solving problems confronting the third world, and its new-found openness.

Fieldhouse, Richard and Shunji Taoka
Superpowers at Sea: An Assessment of
the Naval Arms Race
SIPRI, Oxford, Oxford University Press,
1989. 183 p.

This volume by two military experts has recently appeared in SIPRI's new series "Strategic Issue Papers". The book compares the navies of the two major Powers and those of their allies, presents comprehensive data on the nuclear forces of the navies of the five nuclear-weapon States, analyses their implications for security and arms control, and offers ideas for possible arms measures—both operational and confidence-building (CBM).

In that connection, the authors stress the difficulties of naval arms control and state that the prospects for formal, negotiated measures of limitation or reduction must be considered quite dim. As the single exception to the general situation, they say, there may be good possibilities for the sort of explicit and tacit CBMs that both super-Powers are already undertaking: increased contacts and dialogue, risk reduction measures, improved direct communications facilities and procedures, joint efforts to prevent incidents, exchanges of port visits and personnel, and so forth.

Goldblat, Jozef and David Cox, eds.
Nuclear Weapon Tests: Prohibition or Limitation?
SIPRI and CIIPS publication,
Oxford University Press, 1988. 423 p.

The arguments for and against a comprehensive test ban have changed over time, and there exists an abundant literature dealing with various facets of the problem. This publication, a study jointly conducted by the Stockholm International Peace Research Institute (SIPRI) and the Canadian Institute for International Peace and Security (CIIPS), provides an integrated treatment of technical and political aspects of the question.

The book contains 22 papers by leading physicians, nuclear-weapon designers, seismologists, international lawyers, strategic analysts, political scientists and former governmental advisers and arms control negotiators, from Eastern, Western and non-aligned countries, as well as full statistics on nuclear tests. The book has been organized into five parts. Part one contains the editors' summary and their own conclusions. Part two gives an overview of the problems of nuclear explosions. Part three provides a historical survey of the relevant negotiations as well as an assessment of test limitation treaties. Part four describes the existing technical capabilities for detecting possible violations of a complete test ban. Part five reviews the present attitudes of certain States towards nuclear testing and examines the possible military and political consequences of a test ban.

Graham, Kennedy
National Security Concepts of States: New Zealand
UNIDIR publication,
New York, Taylor & Francis, 1989. 180 p.

This publication is the product of a UNIDIR research project under which the national security concepts of various countries have been described and analysed.

The book is divided into three parts. Part I outlines the concepts that have guided the evolution of New Zealand's security thinking and policies from the period of the Maori sovereignty to modern times. It examines the contemporary security policy of New Zealand, deriving from a nuclear-free concept of national and regional security and focusing first on defence and secondly on arms control and disarmament. Part II analyses the policies described in Part I, paying particular attention to the contemporary policy, in an effort to determine whether it is based on a clear premise and leads to clear objectives, whether it is internally consistent and whether there is scope for its fuller development. Part III explores some of the security concepts that have recently emerged or are beginning to be articulated, without making any recommendation. The author stresses the important role that States critical of nuclear deterrence like New Zealand could play in developing security concepts that can facilitate a lesser reliance on nuclear weapons and perhaps, ultimately, their elimination.

Job, Cvijeto
"Dismantling the nuclear death"
Review of International Affairs (Belgrade)
40:32-34, August 1989.

In his article, Cvijeto Job argues against the idea that nuclear deterrence is necessary for the prevention of war. He admits that nuclear weapons cannot be disinvented, but states that it would be difficult to produce them again in secret once they were completely eliminated and there was an omnipresent system of inspection and control. He believes that, for nuclear death to be dismantled, changes in defence policy must be seen as a universal duty.

Kashlev, Yuri
"Vienna": the main work is ahead
International Affairs (Moscow), May 1989, pp. 46-56.

In this article, Yuri Kashlev, the head of the Soviet delegation to the Vienna follow-up Conference of the Conference on Security and Co-operation in Europe (CSCE), asks why the CSCE forums following the Helsinki Conference lasted so long and if there is a "built-in defect". He tries to answer these questions by giving an insight into the complicated mechanism and tough timetable of the Vienna Conference. He describes the process of negotiating and of achieving compromises to meet the required consensus of the 35 member States. He indicates which decisions would, in his opinion, bring the quickest positive changes in Europe and the world. He not only asks the United States to ratify the international covenants on human rights, but also asks his Government to publish data on the Soviet military budget, as promised. He describes the progress made in Vienna but concludes that the main work lies ahead.

Larrabee, F. Stephen, ed.
Technology and Change in East-West Relations
Institute for East-West Security Studies,
New York, 1988. 210 p.

This volume is based on papers presented to the Sixth Annual Conference of the Institute for East-West Security Studies, held in Helsinki in 1987. The Conference represented an early attempt to conduct a joint East-West assessment of the impact of current and future technology on mutual security, addressing the areas most likely to be affected by technological advances, namely, East-West relations; international trade, finance and economic development; arms control and reduction of nuclear, conventional and chemical and biological weapons; and the impact of technological change on public policy issues. In an introduction, Stephen Larrabee, Director of Studies, and Mary Albon, Program Officer, of the Institute, assess the importance of the current, unprecedented expansion of technology and scientific innovation, mainly focusing on technology, arms and disarmament.

Lavieille, Jean-Marc
Construire la paix
Lyon, Chronique Sociale, 1988.
Vol. 1, 234 p., and vol. 2, 236 p.

Written by a professor of political science at the University of Limoges, these two volumes are entitled, respectively, *Les armements détruisent l'humanité* and *L'humanité détruira les armements*. As the titles suggest, the first volume deals with the arms race and the second largely—though not exclusively—with disarmament. Both reflect a moral commitment to peace-keeping and peace-making. This commitment leads the author to recognize a role for science in disarmament. He advocates a science for disarmament as well as a science for development.

Looney, Robert
"Have third-world arms industries reduced
arms imports?"
Current Research on Peacc and Violence
(Tampere, Finland) 10:1:15-26 (1989).

The answer that the author gives to the question posed in the title of his article is essentially affirmative. Yes, the indigenous arms production in the third world has tended to reduce the importation of arms. The results of empirical work undertaken in the article also lead him to say that arms imports themselves are largely affected by foreign exchange availability, rather than political or strategic factors. Of course, third world arms producers have much more flexibility and choice regarding arms imports than have other developing countries.

He concludes that arms imports in the years ahead will most likely not reach the levels attained in the late 1970s because of a lack of funds in many third world countries and the development of domestic defence programmes and production capabilities in some others.

Mack, Andrew and Paul Keal, eds.
Security & Arms Control in the North Pacific
Sydney, Allen & Unwin, 1988. 324 p.

This book consists of 14 papers presented by politicians, professors and researchers from Australia, Canada and the United States at a major international conference on security and arms control in the North Pacific, held at the Australian National University in August 1987. The focus is both geographical—with chapters devoted to the arms control prospects of particular States in the region—and thematic. The thematic region-wide issues which are addressed include the arms trade, the arms control implications of the nuclear infrastructure in the region, efforts to implement naval arms control measures, and the tension between military and non-military approaches to achieving security—deterrence versus confidence-building.

Maxfield, Russell and Arend J. Meerburg
"Two techniques for verifying conventional reductions"
Arms Control Today (Washington, D.C.)
19:18-21, August 1989.

The authors argue that it is urgent to start to look seriously at how arms control agreements on conventional weapons could be verified. Otherwise, they say, the negotiations on conventional forces in Europe may stall over the extraordinarily complex task of verifying a European arms agreement. The Soviet Union's "new political thinking", they believe, opens up new possibilities. The main issue is no longer that East and West have different views on the acceptability of intrusive verification measures, but that practical solutions to inherently difficult verification problems have to be found.

Micu, Nicolae
"Current aspects and prospects for confidence, security and disarmament in Europe"
Revue Roumaine d'Etudes Internationales XXIII
(Bucarest), pp. 235-241, May-June 1989.

In this article, Nicolae Micu, the chief editor of the *Revue Roumaine d'Etudes Internationales*, gives an overview of Romanian policy on different disarmament issues. He describes the negotiations in Vienna at the Conference on Security and Co-operation in Europe (CSCE) and the negotiations between the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization (WTO) about conventional disarmament. Pointing out that disarmament requires action on several levels, he urges the Soviet Union and the United States to finalize their negotiations on reductions in strategic nuclear arms, and calls for the reduction and elimination of tactical weapons in Europe, a nuclear-test ban and conclusion of the Geneva negotiations on chemical weapons.

Moiseyev, Mikhail
"Soviet defense budget",
article from *Pravda*, 11 June 1989,
in *Reprints from the Soviet Press* (New York)
49:55-62, 31 August 1989.

In this article Mikhail Moiseyev, General of the Army and Chief of the General Staff of the Soviet Armed Forces, analyses the Soviet defence budget and compares it with the budget of the United States. He states that the Soviet Union plans to cut down the share of defence expenditures in the national budget 1.5 to 2 times by 1995, a move connected with continuing reductions in armaments and the possibility of converting defence plants to civilian use. The reduction of military expenditures, he believes, will help the Soviet Union to cope with its foreign and domestic policy problems.

Newhouse, John
War and Peace in the Nuclear Age
New York, Knopf, 1989. 486 p.

In this volume, the author, a former Assistant Director of the United States Arms Control and Disarmament Agency, provides an account of the nuclear era that concentrates on the radical and unprecedented ways in which the conduct of human affairs has been affected by the existence of nuclear weapons.

In his conclusions, John Newhouse is perhaps a bit more pessimistic than other historians of the nuclear age (see the review of *The Making of the Atomic Bomb* by Richard Rhodes in *Disarmament*, vol. XI, No. 1 (Winter 1987/1988)). "The awesome significance of the nuclear weapon", Newhouse states, "is all too seldom reflected in the effort of governments—any government—to deal with it."

Nweke, G. Aforka
African Security in the Nuclear Age
Enugu, Nigeria, 1985, and Taiwan, 1986,
Fourth Dimension Publishers. 154 p.

In his book, the author—who teaches political science at the University of Nigeria—views "African security" as a concept destined not only to protect the national integrity of every African State, but also to defend the essential values of African identity. Security in the African sense, he states, is indivisible, and, like any public good, cannot be denied to any member of the African political community.

From this premise, the book moves on to consider the problem of the actual provision of African security through a rational choice of appropriate socio-economic, political, and military policies and strategies. In this connection, the author stresses that economic and political independence are pre-conditions of African security and supports the establishment of regional security arrangements for defence, notably a defence force of the Organization of African Unity (OAU). The book also includes a full chapter on African security through disarmament and one on the nuclear option.

Park, Jae Kyu and Byung-joon Ahn, eds.
The Strategic Defense Initiative: Its Implications for Asia and the Pacific
Boulder, CO, Westview Press, and
Seoul, Kyungnam University Press, 1987. 274 p.

This book is the result of an international symposium held at Kyungnam University, Seoul, in 1986. On that occasion numerous papers were presented on the subject of the volume, including one by Ambassador Edward Rowny, at the time Special Adviser for Arms Control Matters to the President of the United States. Various viewpoints are presented and no general conclusion is drawn by the editors, although they note that most Asian and Pacific countries, which are either regionally or locally oriented on security issues, tend to see SDI primarily as an issue of global confrontation between the United States and the Soviet Union—an issue from which they try to shy away as much as they can.

Proektor, Daniil
Politics and Power: Military and Political Questions of International Security
Moscow, Novosti Press, 1989. 63 p.

In this brief publication, the author analyses the traditional view that security is best guaranteed by national superiority in weaponry and military strength and argues that it is inimical to present efforts to develop new security-building policies on a global basis.

To the old concept of military superiority, the author opposes that of "reasonable sufficiency", which calls for stopping the arms race and starting an effective process of arms reductions, and which implies peaceful coexistence. The author concludes with General Secretary Gorbachev's text on the fundamental principles of an all-embracing system of international security, as formulated in 1986 on the occasion of the 27th Party Congress of the Communist Party of the Soviet Union.

Rose, William
US Unilateral Arms Control Initiatives:
When Do They Work?
Westport, CT, Greenwood Book News, 1988. 209 p.
(Contributions in military studies, No. 82)

For many years there has been a continuous debate about the role of unilateral initiatives in the process of arms control negotiations. Although advocates of unilateral initiatives are often accused of being naïve idealists, a variety of unilateral arms control initiatives have been introduced by the United States as well as the Soviet Union. Rose stresses that in order for the United States to use this tactic productively, the conditions favouring success as well as the benefits and costs of using the tactic have to be understood.

Rose explores the problem through analysing Soviet responses in five cases in which the United States exercised restraint in weapons testing, production, or deployment in an attempt to obtain reciprocal Soviet restraint. The author's methodology is based on a variety of theoretical hypotheses of how a State can best implement the unilateral initiative tactic in order to influence the behaviour of another State in the direction of mutual restraint. By analysing these cases, the author defines those factors (and their relative weight) that may favour the success of such initiatives.

Schwarz, Wolfgang
Strukturelle Angriffsunfähigkeit in Europa: Erfordernisse, Konzepte, Hemmnisse
(Structural incapacity for attack in Europe: requirements, blueprints, obstacles)
Berlin, Staatsverlag der Deutschen Demokratischen Republik. 128 p.
(IPW-Forschungshefte, 24. Jahrgang, Heft 2/1989)

The author proceeds from the thesis that from a rational point of view war can no longer be waged in Europe. In view of the scientific and technological revolution and its impact on both the civilian and military fields, any war in Europe would entail the total annihilation of European civilization and, quite probably, world civilization. He concludes, with a view to continuing the process of disarmament in Europe, that the armed forces of the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization (WTO) should be placed in a position of mutual structural incapacity for attack and stresses efforts of the socialist military coalition towards the goal. Structural incapacity for attack, the author states, could be reached when the military capabilities remaining on the two sides following a process of limitation, cut-backs and restructuring of their armed forces could be used neither for surprise attack nor for major frontier-crossing operations. Basic obstacles to achieving this are, in his view, found in the position of NATO, which is still planning to build up its offensive capabilities.

Seidelmann, Reimund, ed.
Auf dem Weg zu einer westeuropäischen Sicherheitspolitik
(Towards a Western European security policy)
Baden-Baden, Nomos Verlagsgesellschaft, 1989. 384 p.

Since the early 1980s there has been a call in Europe for a common Western European security policy. This volume deals with the question: What political structures are required in order for Europe to move towards a common security policy? The book presents 10 articles which argue from a West German point of view, presupposing reforms in existing structures and policies of Western European States belonging to the European Economic Community and the North Atlantic Treaty Organization.

In his article, Seidelmann carries out a cost-benefit analysis of a European approach and examines the prospects for its implementation in the domestic and foreign policies of the countries involved. He analyses how such an approach could affect the relationship between the European countries and the United States politically and economically, and asks how willing the European countries are to spend more money on defence while facing widespread unemployment. In this context he explains how national interests are hindering a European security approach at the moment, but he concludes that the development of such an approach is logical and inevitable.

Other articles examine how far the discussion about a common security policy has developed in France, the United Kingdom and the Federal Republic of Germany. The book also discusses the role of the European peace movements and legal and administrative problems of a common European approach, and points out some possible solutions. The article by Kiersch and Reuss deals with the special French-German relationship and the responsibility of those two States as pioneers in devising a common security strategy.

Sims, Nicholas A.
The Diplomacy of Biological Disarmament:
Vicissitudes of a Treaty in Force, 1975-85
New York, St. Martin's Press, 1988. 356 p.

This detailed study of the 1972 Convention on biological and toxin weapons discusses the Treaty itself, its implementation, and attempts that have been made to strengthen its complaint and consultation procedures. The author considers ways of strengthening the operation of this important international accord, which, he believes, is in need of "a serious administration".

Sloan, Stanley R.
Conventional Arms Control and Europe's Future
Foreign Policy Association Headline Series,
No. 287, Winter 1988/1989. 72 p.

The negotiations on conventional forces in Europe (CFE), which opened in Vienna in March 1989 between the countries of the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization (WTO), are the central topic of this issue. However, the author also gives thought to the past negotiations regarding conventional arms, the Vienna Talks on mutual reduction of forces and armaments (MBFR), and he discusses the ongoing work of the Conference on Security and Co-operation in Europe (CSCE). On the whole, it is his view that the prospects for an *early* accord between East and West in the new negotiating forum are not promising. This means, he says, that in the next several years progress towards enhanced stability in Europe may be realized only through unilateral measures by the two sides or negotiated steps short of reductions.

Stockholm International Peace Research Institute
SIPRI Yearbook 1989: World Armaments and Disarmament
New York, Oxford University Press, 1989. 538 p.

The volumes of the SIPRI *Yearbook* have established themselves as well-researched and highly informative sources of armament and disarmament information, analysis and comment. This year SIPRI can celebrate the twentieth volume of the series.

The Yearbook is divided into four parts. Part I, on weapons and technology, gives an overview of developments in nuclear armament, the military use of outer space and chemical and biological warfare. Part II deals with the world's military expenditures, the arms trade and armed conflicts. Part III features developments in arms control, and part IV, "Special features", debates the role of the United Nations in peace and security. The publication makes extensive use of tables and appendices, which makes it an extremely handy reference. The volume provides data on nuclear weapons and nuclear explosions, tables of world military expenditure, and registers of licensed production of and trade in major conventional weapons. It also includes the text of the USSR/United States Agreement on the Conduct of a Joint Verification Experiment and extracts from the Concluding Document of the 1986-89 Vienna Meeting relating to the Follow-up to the Conference on Security and Co-operation in Europe.

United Nations
U.N. Disarmament Studies
New York, Taylor & Francis, 1989. 152 p.

This volume presents two recent United Nations studies: the *Study on the Climatic and Other Global Effects of Nuclear War* and the *Study on the Economic and Social Consequences of the Arms Race and Military Expenditures*. The studies were conducted by groups of experts appointed by the Secretary-General and were submitted to the General Assembly in 1989.

The first study deals with atmospheric and climatic consequences of nuclear war. It discusses the effects of nuclear war on the ecosystem and agriculture as well as on human health and socio-economic systems. In his foreword, the Secretary-General notes the study's conclusion that a major nuclear war would entail the high risk of a global environmental disruption, and that the risk would be greatest if large cities and industrial centres in the northern hemisphere were targeted in the summer months. The study confirms the view that a nuclear war cannot be won and must not be fought.

The second study is the fourth in a series—beginning in 1971—carried out by the United Nations on the subject of the social consequences of the arms race. The study concludes that the arms race undermines international security and conditions for the international co-operation that is urgently required in all the relevant fields outlined in the report. The arms race continues to have a divisive effect on the world, furnishing the means for transgression of the fundamental provisions of the Charter of the United Nations. The study recommends that the activities of the United Nations relating to military budgets, including the collection of data on military expenditures and the enhancement of their reliability and comparability, be continued and intensified.

Volkov, Mai
"Interrelations between militarism, arms race
and economic development"
Development and Peace (Budapest) 9:207-217,
Autumn 1988.

Mai Volkov tries in this article to elucidate the ties between militarism, the arms race and economic growth. He describes the negative impact of militarism on the economy, using examples from Western and developing countries and referring to the studies of Simor Melman of Columbia University. Volkov argues that the interrelation of the arms race and neo-colonialism hinders economic growth and mutilates its nature. Volkov concludes that disarmament is necessary to achieve economic growth and to put an end to hunger and malnutrition.

Wachter, Gerhard and Axel Krohn, eds.
Stability and Arms Control in Europe:
The Role of Military Forces within
a European Security System
Stockholm, SIPRI, 1989. 113 p.

This report, consisting of an introductory chapter by the two editors and six essays by active military officers in the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization (WTO), presents (*a*) a scenario for a possible future European security system and (*b*) distinct views on the role of military forces in such a system.

As the two editors state, dismantling the huge structure of military confrontation which was built up in Europe after the Second World War is a central part of all the proposals designed to deal with the present political situation in Europe and that between NATO and the WTO. The present study is no exception. As to the possible time frame, it is the editors' view that a European security system is still a distant prospect.

On the whole, the hypothetical assumptions of the study encompass the following elements: political structure in the Europe of the year 2020, with no alliances remaining and no threat of internal confrontation; no military threat from outside Europe; a role as guarantor for the Soviet Union and the United States; the creation of multinational regional armed forces; and a limited and agreed-upon presence of nuclear weapons.

Further Publications

Disarmament is unable to publish reviews of all publications which have been sent to the editor. The following list is a selection of publications received recently:

Altmann, Jürgen, Benoît Morel, Theodore Postol and Thomas Risse-Kappen, ed. *Anti-Tactical Missile Defenses and West European Security*. Frankfurt, Federal Republic of Germany, Peace Research Institute Frankfurt, 1988. 79 p. (PRIF Report No. 3)

Arms Control Association. *Arms Control and National Security: An Introduction*. Washington, DC, ACA, 1989. 176 p.

Auffermann, Burkhard, ed. *Alternative Security*. Tampere, Finland, Tampere Peace Research Institute, 1988. 134 p. (Current Research On Peace And Violence 3/1988)

Auton, Graeme P., ed. *Arms Control and European Security*. New York, Praeger Publishers, 1989. 205 p.

Bajusz, William D. and David J. Louscher. *Arms Sales and the US Economy: The Impact of Restricting Military Exports*. Boulder, CO, Westview Press, 1988. 145 p.

Bienen, Henry S. *Armed Forces, Conflict, and Change in Africa*. Boulder, CO, Westview Press, 1989. 211 p.

Bitzinger, Richard A. *Competing Security Doctrines and a Nordic Nuclear-Free Zone*. Santa Monica, CA, The RAND Corporation, 1988. 23 p. (RAND/P-7502)

Blechman, Barry M., ed. *Technology and the Limitation of International Conflict*. Washington, DC, The Johns Hopkins Foreign Policy Institute, 1989. 185 p.

ter Borg, Marlies and Wim Smit. *Tactical Ballistic Missile Defence in Europe: Feasible, Affordable, Desirable?* Amsterdam, Free University Press, 1987. 174 p.

Boulden, Jane. *Towards a Chemical Weapons Convention:* Proceedings of a Conference entitled "Implementing a Global Chemical Weapons Convention", held in Ottawa, October 7-9, 1987. The American Academy of Arts and Sciences and the Canadian Centre for Arms Control and Disarmament, 1989. 60 p.

Boyd-Carpenter, Thomas. *Conventional Deterrence into the 1990s*. New York, St. Martin's Press, 1989. 189 p.

Brauch, Hans Günter, ed. *Star Wars and European Defence*. New York, St. Martin's Press, 1987. 599 p.

Brown, Harold, ed. *The Strategic Defense Initiative: Shield or Snare?* Boulder, CO, Westview Press, The Johns Hopkins Foreign Policy Institute, 1987. 297 p.

Bunge, William. *Nuclear War Atlas*. Oxford and New York, Basil Blackwell, 1988. 204 p.

Buszynski, Leszek. *ASEAN: Security Issues of the 1990s*. Canberra, Research School of Pacific Studies, Australian National University, 1988. 15 p. (Working Paper No. 165)

Butler, Richard. *Australia and Disarmament*. Canberra, Research School of Pacific Studies, Australian National University, 1989. 22 p. (Working Paper No. 64)

Byers, R. B., F. Stephen Larrabee and Allen Lynch, eds.*Confidence-building Measures and International Security*. New York, Institute for East-West Security Studies, 1987. 156 p. (East-West Monograph Series No. 4)

Calvo-Goller, Notburga K. and Michel A. Calvo. *The SALT Agreements: Content—Application—Verification*. Dordrecht, Netherlands, Martinus Nijhoff Publishers, 1987. 428 p.

Carnegie Task Force on Non-Proliferation and South Asian Security. *Nuclear Weapons and South Asian Security*. New York, Carnegie Endowment for International Peace, 1988. 134 p.

Centro de Investigación de la Universidad del Pacífico. *Impacto Macrc Económico de los Gastos Militares en el Perú 1960-1987* (Macro-economic impact of military spending in Peru 1960-1987). Lima, Peru, Asociación Peruana de Estudios e Investigación para la Paz, 1989. 173 p.

Cimbala, Stephen J. *NATO Strategies and Nuclear Weapons*. New York, St. Martin's Press, 1989. 276 p.

Cimbala, Stephen J. *Nuclear Endings: Stopping War on Time*. New York, Praeger Publishers, 1989. 295 p.

Cimbala, Stephen J. *Strategic Impasse: Offense, Defense, and Deterrence: Theory and Practice*. New York, Greenwood Press, 1989. 266 p. (Contributions in Military Studies, No. 89)

Cowen, Regina, Peter Rajcsanyi and Vladimir Bilandzic. *SDI and European Security*. Boulder, CO, Westview Press, Institute for East-West Security Studies, 1987. 183 p. (East-West Monograph Series No. 5)

Croft, Stuart. *The United States and Ballistic Missile Defence: ABM and SDI*. London, Brassey's, Council for Arms Control, 1987. 22 p. (Faraday Discussion Paper No. 10)

Daalder, Ivo H. *The SDI Challenge to Europe*. Cambridge, MA, Ballinger, 1987. 185 p.

Dorn, Walter H. *Peace-Keeping Satellites: The Case for International Surveillance and Verification*. Dundas, Canada, Peace Research Institute-Dundas, 1987. 172 p. (Peace Research Reviews, 10:5 and 6)

Dünne, Ludger. *Zur Frage der Realisierung "Struktureller Nichtangriffsfähigkeit" im Rahmen konventionell bewaffneter Landstreitkräfte* (About the realization of structural incapacity of attack in the framework of conventionally armed ground forces). Hamburg, Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg, 1988. 137 p. (Hamburger Beiträge zur Friedensforschung und Sicherheitspolitik No. 34)

Dunn, Peter. *Australian Diplomatic and Technical Inputs into the Control of Chemical Weapons*. Canberra, Research School of Pacific Studies, Australian National University, 1989. 16 p. (Working Paper No. 65)

Durch, William J. *The ABM Treaty and Western Security*. Cambridge, MA, Ballinger, 1988. 161 p.

Faringdon, Hugh. *Strategic Geography: NATO, the Warsaw Pact, and the Superpowers*. 2nd edition. London and New York, Routledge, 1989. 435 p.

Findlay, Trevor. *Principal Arms Control/Disarmament Agreements of the Twentieth Century*. Canberra, Research School of Pacific Studies, Australian National University, 1989. 16 p. (Working Paper No. 66)

Findlay, Trevor, ed. *Verifying a Test Ban*. Canberra, Research School of Pacific Studies, Australian National University, 1989. 121 p.

Finland. *The Finnish Research Project on Seismological Verification of Nuclear Tests*. Helsinki, Ministry for Foreign Affairs, 1989. 16 p.

Flanagan, Stephen J. *NATO's Conventional Defenses*. Cambridge, MA, Ballinger, International Institute for Strategic Studies (IISS), 1988. 161 p.

Freedman, Lawrence. *The Evolution of Nuclear Strategy*, 2nd edition. New York, St. Martin's Press, 1989. 522 p.

Gaertner, Heinz. *Challenges of Verification: Smaller States and Arms Control*. New York, Institute for East-West Security Studies, 1989. 96 p. (Occasional Paper No. 12)

Garthoff, Raymond L. *Policy Versus the Law: The Reinterpretation of the ABM Treaty*. Washington, DC, The Brookings Institution, 1987. 117 p.

Gizewski, Peter. *Biological Weapons Control*. Ottawa, Canadian Centre for Arms Control and Disarmament, 1987. 48 p. (Issue Brief No. 5)

Glasser, Robert D. *Ballistic Missile-Carrying Submarines: A Reassessment of their Contribution to Strategic Stability*. Los Angeles, Center for International and Strategic Affairs, University of California, 1989. 28 p. (CISA Working Paper No. 68)

Gottfried, Kurt and Bruce G. Blair, eds. *Crisis Stability and Nuclear War*. New York and Oxford, Oxford University Press, 1988. 354 p.

Guilhaudis, J.-F. and J. Fontanel, eds. *Course aux armaments et désarmement* (Arms race and disarmament). Paris, Société pour le développement des études de défense et de sécurité internationale, 1988. 241 p. (Arès, 1988/1)

Hafner, Donald L. and John Roper, eds. *ATBMs and Western Security: Missile Defenses for Europe*. Cambridge, MA, Ballinger, 1988. 325 p.

Hayden, Bill. *Security and Arms Control in the North Pacific*. Canberra, Research School of Pacific Studies, Australian National University, 1988. 10 p. (Working Paper No. 31)

Hoffman, Fred S., Albert Wohlstetter and David S. Yost. *Swords and Shields: NATO, the USSR, and New Choices for Long-Range Offense and Defense*. Lexington, MA, Lexington Books, 1987. 369 p.

Huisken, Ron. *Strategic Defence: An Australian Perspective*. Canberra, Research School of Pacific Studies, Australian National University, 1989. 20 p. (Working Paper No. 58)

Huth, Paul K. *Extended Deterrence and the Prevention of War*. New Haven and London, Yale University Press, 1988. 227 p.

International Peace Research Institute, Oslo (PRIO). *Early Warning and Conflict Resolution*. A conference report. Oslo, PRIO, 1989. 29 p. (No. 3, July 1989)

Jervis, Robert. *The Meaning of the Nuclear Revolution*. Ithaca, NY, Cornell University Press, 1989. 266 p.

Kettle, St. John. *Australia's Arms Exports: Keeping Them Out of Repressive Hands*. Canberra, Research School of Pacific Studies, Australian National University, 1989. 186 p.

Kinnard, Douglas. *President Eisenhower and Strategy Management. A Study in Defense Politics*. First printing, University of Kentucky Press, 1977. Oxford, Pergamon-Brassey's, 1989. 169 p.

Kirby, Stephen and Gordon Robson, eds. *The Militarisation of Space*. Brighton, United Kingdom, Wheatsheaf Books Ltd., and Boulder, CO, Lynne Rienner Publishers, 1987. 253 p.

Lindsey, George. *Strategic Stability in the Arctic*. London, Brassey's, IISS, 1989. 87 p. (Adelphi Paper No. 241)

Mack, Andrew. *Arms Control in the North Pacific: Problems And Prospects*. Canberra, Research School of Pacific Studies, Australian National University, 1988. 31 p. (Working Paper No. 36)

Mattausch, John. *A Commitment to Campaign: A Sociological Study of CND*. Manchester, Manchester University Press, 1989. 192 p.

Neuneck, Götz. *Strukturelle Angriffsunfähigkeit und konventionelle Rüstungskontrolle: Wege zur Entmilitarisierung des Ost-West-Verhältnisses* (Structural incapacity for attack and conventional arms control: Ways to demilitarize East-West relations). Hamburg, Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg, 1988. 97 p. (Hamburger Beiträge zur Friedensforschung und Sicherheitspolitik No. 35)

Pott, Andreas. *Europäische Sicherheit I: Gemeinsame Sicherheit als Strategiemodell für Europa?* (European security I: Common security as a strategy model for Europe?) Hamburg, Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg, 1988. 50 p. (Hamburger Beiträge zur Friedensforschung und Sicherheitspolitik No. 32)

Research Institute for Peace and Security, Tokyo. *Asian Security 1988-89*. London, Brassey's, 1988. 173 p.

Risse-Kappen, Thomas. *Zero Option: The Global Elimination of Ground-Launched Intermediate-Range Missiles—A Political Assessment*. Frankfurt, Federal Republic of Germany, Peace Research Institute Frankfurt, 1988. 34 p. (PRIF Report No. 2)

Royal Institute of International Affairs. *Europe's Future in Space. A Joint Policy Report*. London, Routledge & Kegan Paul, 1988. 224 p. (Chatham House Special Paper)

Rubenson, David and James Bonomo. *NATO's Anti-Tactical Ballistic Missile Requirements and Their Relationship to the Strategic Defense Initiative*. Santa Monica, CA, The RAND Corporation, 1987. 52 p. (RAND/R-3533-AF)

Rupesinghe, Kumar. *Early Warning and Conflict Resolution*. A discussion paper. Oslo, PRIO, 1989. 25 p. (No. 4, July 1989)

Saaty, Thomas L. and Joyce M. Alexander. *Conflict Resolution: The Analytic Hierarchy Approach*. New York, Praeger Publishers, 1989. 252 p.

Schiefer, H. Bruno and James F. Keeley, eds. *International Atomic Energy Agency Safeguards as a Model for Verification of a Chemical Weapons Convention*. Proceedings of a Workshop held at Banff Springs Hotel, Alberta, Canada, 21-24 October 1988. The Arms Control and Disarmament Division, Department of External Affairs, Ottawa, 1989. 119 p. (Arms Control Verification Occasional Paper No. 3)

Segal, Gerald, ed. *New Directions in Strategic Studies: A Chatham House Debate*. London, Royal Institute Of International Affairs, 1989. 36 p. (RIIA Discussion Paper No. 17)

Shaker, Steven M. and Alan R. Wise. *War Without Men*. Oxford, Pergamon-Brassey, 1988. 196 p.

Sivers, Anthony. *Conventional Arms Control: Considering New Directions*. London, Brassey's, Council for Arms Control, 1989. 69 p. (Faraday Discussion Paper No. 13)

Smoker, Paul and Morris Bradley. *Accidental Nuclear War*. Tampere, Finland, Tampere Peace Research Institute, 1988. 79 p. (Current Research On Peace And Violence 1-2/1988)

Soviet Nuclear Weapons. By Thomas B. Cochran *and others*.

New York, Harper & Row, 1989. 433 p. (Nuclear Weapons Databook, vol. 4)

Spiers, Edward M. *Chemical Weaponry: A Continuing Challenge*. New York, St. Martin's Press, 1989. 218 p.

Stützle, Walther, Bhupendra Jasani and Regina Cowen, eds. *The ABM Treaty: To Defend or Not to Defend?* Oxford University Press, Stockholm International Peace Research Institute (SIPRI), 1987. 219 p.

Thee, Marek. *The Quest For The Demilitarization of International Relations*. Oslo, PRIO, 1989. 28 p. (No. 5, September 1989)

Thomas, Daniel C. and Michael Klare, eds. *Peace and World Order Studies*. 5th edition. Boulder, CO, Westview Press, 1989. 666 p.

United Nations Institute for Disarmament Research (UNIDIR). *A Legal Approach to Verification in Disarmament or Arms Limitation*. New York, United Nations, 1988. 72 p. (Research Paper No. 1)

United Nations Institute for Disarmament Research (UNIDIR). *Verification Problems of the Washington Treaty on the Elimination of Intermediate-Range Missiles*. New York, United Nations, 1988. 62 p. (Research Paper No. 2)

United Nations Institute for Disarmament Research (UNIDIR). *Confidence-building Measures within the CSCE Process: Paragraph-by-Paragraph Analysis of the Helsinki and Stockholm Régimes*. New York, United Nations, 1989. 110 p. (Research Paper No. 3)

United Nations Institute for Disarmament Research (UNIDIR). *The Prevention of Geographical Proliferation of Nuclear Weapons: Nuclear-Weapon-Free Zones and Zones* *of Peace in the Southern Hemisphere*. New York, United Nations, 1989. 57 p. (Research Paper No. 4)

United Nations Institute for Disarmament Research (UNIDIR). *Conventional Forces and Arms Limitation in Europe*. New York, United Nations, 1989. 90 p.

United Nations Institute for Disarmament Research (UNIDIR). *Satellite Warfare: A Challenge for the International Community*. New York, United Nations, 1987. 42 p.

Van Doren, Charles N. and Rodney Jones. *China & Nuclear Non-Proliferation: Two Perspectives*. Southampton, Centre for International Policy Studies, University of Southampton, United Kingdom, on behalf of the Programme for Promoting Nuclear Non-Proliferation, 1989. 36 p. (PPNN Occasional Paper No. 3)

Vickman, Leon. *Why Nuclear Weapons are Illegal*. Santa Barbara, CA, Nuclear Age Peace Foundation, 1989. 12 p. (Waging Peace Series No. 20)

Volger, Helmut. *Der Wandel der Perzeption von Abrüstung, Entwicklung und Konversion in der UNO* (Change in the perception of disarmament, development and conversion in the United Nations). Frankfurt, Federal Republic of Germany, Haag und Herchen Verlag, 1987. 283 p.

Weinberg, Alvin M. and Jack N. Barkenbus, eds. *Strategic Defenses and Arms Control*. New York, Paragon, Washington Institute, 1988. 263 p.

West, Philip and Frans A. M. Alting von Geusau, eds. *The Pacific Rim and the Western World: Strategic, Economic, and Cultural Perspectives*. Boulder, CO, Westview Press, 1987. 330 p.

Wiseman, Geoffrey. *Common Security and Non-Provocative*

Defence: Alternative Approaches to the Security Dilemma. Canberra, Research School of Pacific Studies, Australian National University, 1989. 101 p.

Wittmann, Klaus. *Challenges of Conventional Arms Control*. London, Brassey's, IISS, 1989. 95 p. (Adelphi Paper No. 239)

World Federation of Scientific Workers. *European Security and Non-Offensive Defence*. International Symposium of the WFSW, Varna, Bulgaria. Berlin, GDR, Regional Centre of the WFSW, 1988. 135 p.

Chronicle of Disarmament Activities

Recent Events, Conferences and Other Meetings and Negotiations

2 July–22 November
United Nations disarmament fellowship, training and advisory services programme

4–7 September
United Nations Regional Seminar for the World Disarmament Campaign on Multilateral Confidence-building Measures and the Prevention of War, Kiev, Ukrainian SSR

11–15 September
Second session of the Preparatory Committee for the Fourth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

18–22 September
Government-Industry Conference against Chemical Weapons, Canberra, Australia

19–28 September
Review Conference of the Parties to the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof, Geneva

22–23 September
Meeting between United States Secretary of State James A. Baker and Soviet Foreign Minister Eduard A. Shevardnadze, Jackson Hole, Wyoming

17 October–30 November
First Committee of the General Assembly, New York

24–30 October
United Nations Disarmament Week

25 October
Seventh United Nations Pledging Conference for the World Disarmament Campaign, New York

27–30 November
United Nations Seminar on Alternatives for Common Security in South America, Lima, Peru

27 November–8 December
Second Session of the Group of Qualified Governmental Experts to Update the Study on Nuclear Weapons

Disarmament
Volume XII, Number 3
Autumn 1989

Papers presented at the United Nations Conference on Disarmament Issues, held at Kyoto, Japan, 19-22 April 1989

Introduction

Non-Proliferation of Nuclear, Chemical and Other Weapons
Tom Vraalsen

Nuclear-Test Ban and Verification
Harald Rose
Shigeji Suyehiro

Openness, Transparency and Confidence-building Measures
Kamalesh Sharma

Multilateral and Bilateral Approaches to Disarmament
Mansur Ahmad

Security and Disarmament
Vladimir Petrovsky
Maynard W. Glitman

List of Participants and Observers

United Nations Conference of Experts on the Strengthening of Political Co-operation in Latin America, held at Lima, Peru 6-9 December 1988

Introductory Note

Inaugural Address
Alfonso García Robles

Prospects for Peace and Security at the Regional and Subregional Levels
Marcos Castrioto de Azambuja

Co-operation and Confidence-building Measures in Latin America and the Caribbean
Davidson L. Hepburn

Co-operation and Confidence-building Measures in Latin America and the Caribbean
Hugo Palma

The Transfer of Military Technology to Latin America
Augusto Varas

List of Participants

The International Seminar on the Indian Ocean as a Zone of Peace, held at Sochi, USSR, 28-30 April 1989—Selected papers presented at the Seminar

Introduction

Recent Developments Relating to the *Ad Hoc* Committee on the Indian Ocean
Wilhelm Grundmann

The Declaration of the Indian Ocean as a Zone of Peace and Its Implementation
Edmond Jayasinghe

Peace through Confidence-building: Prospects in the Indian Ocean
Sukhdev D. Muni

Interests of the Major Powers in the Indian Ocean
Howard Wriggins

List of Participants

Documentation relating to Disarmament

Conceptual framework for agreement on
Conventional Armed Forces in Europe
(Warsaw Treaty countries)

Proposals for the negotiations on
Conventional Armed Forces in Europe
(NATO countries)

Communiqué issued by the Committee of
the Ministers of Foreign Affairs of
the States Parties to the Warsaw Treaty
at its session of 11 and 12 April 1989

Declaration issued on the occasion of
the fifth anniversary of the launching
of the Six-Nation Initiative

Declaration of the Heads of State or Government
participating in the meeting of the
North Atlantic Council of 29-30 May 1989
(excerpts)

Recent Books and Articles

Chronicle of Disarmament Articles

Disarmament
Volume XII, Number 2
Summer 1989

Limiting Conventional Arms and Forces

Africa: The Case for Disarmament
Peter Anyang' Nyong'o

New Negotiations on Conventional Forces and Confidence-building Measures in Europe
Guenter Buehring

Cutting Back the NATO-WARSAW Treaty Confrontation
Jonathan Dean

Conventional Stability
Josef Holik

Reduction of Conventional Armed Forces and Armaments in Europe
Gyula Horn

Conventional Disarmament in Europe
Yuri Kashlev

Conventional Disarmament in Europe
Jean Desazars de Montgailhard

Prospects for Conventional Arms Reduction and Confidence- and Security-building Measures in Europe
Kalevi Ruhala

Reduction of Conventional Armed Forces in Europe: Problems and Prospects
Heinz Vetschera

The Partial Test Ban—25 Years Later (*continued*)

1963 Moscow Treaty: Achievements
and Future Prospects
Yury Pinchukov

The Joint Verification Experiment: A Unique
Approach to Developing Verification Agreements
Paul Robinson

The Treaty of 1963: Retrospective and Perspective
Georges Fischer

"The Discontinuance of All Test Explosions of
Nuclear Weapons for All Time . . ."
Nihal Rodrigo

Back at the Top of the Agenda: A Nuclear Test Ban
Olafur Ragnar Grimsson

The Paris Conference on the Prohibition of Chemical Weapons
Pierre Morel

Strategic Arms Reduction Talks and Future Prospects
Nikolai Chervov

Verification and Compliance
Alessandro Corradini

Documentation relating to Disarmament
Secretary-General's Statement to the Paris
Conference Concerning the 1925 Geneva Protocol

Final Declaration of the Paris Conference
Concerning the 1925 Geneva Protocol

Concluding Document of the Vienna Conference on Security and Co-operation in Europe

Recent Books and Articles

Chronicle of Disarmament Events

Disarmament
Volume XII, Number 1
Winter 1988/1989

The Partial Test Ban—25 Years Later

The Partial Test-Ban Treaty: A British View
William Waldegrave

From a Partial to a Comprehensive Test Ban
Raimo Väyrynen

Seeking a Better Approach to End the
Nuclear Arms Race: A Retrospective on
the Partial Test-Ban Treaty
Pan Zhenqiang

Nuclear Weapons: Non-Proliferation,
Technologies and Test-Ban Treaties
Ronald Mason

Conflict Resolution, Crisis Prevention and Management and Confidence-building in West Africa

Introduction

African and International Legal Provisions in
the Peaceful Settlement of Disputes
Abdulai Conteh

African Political, Military and Economic Affairs
in their Relationship to Security, Disarmament
and Confidence-building
Oluyemi Adeniji

The Role of the Economic Community of
West African States (ECOWAS) in the
Peaceful Settlement of Disputes
S. O. Oshunbiyi

Interregional Military Training in Africa
as a Confidence-building Factor
Camille Nkoa Atenga

Contributions of Peace to Economic and Social
Development: The Case of Togo
Yao Kunale Eklo

Border Regions in Africa:
Collaboration or Conflict?
Anthony I. Asiwaju

ECOWAS, Security and Development
Mustapha A. B. Kah

List of Speakers and Participants

Documentation relating to Disarmament

Address by General Secretary Mikhail Gorbachev
at the Forty-third Session
of the General Assembly

Conventional Arms Control: Statement of the
Ministerial Session of the North Atlantic Council

Recent Books and Articles

Chronicle of Disarmament Events

Disarmament Resolutions Adopted by the General Assembly at its Forty-third Session

Other Publications of the Department for Disarmament Affairs

1 September–30 November 1989

Proceedings

United Nations Conference on Disarmament Issues
Held at Kyoto, Japan, 19-22 April 1989

Regional Conference for the World
Disarmament Campaign*
Held at Dagomys, USSR, 12-16 June 1989

Disarmament Facts

Number 68: Treaty for the Prohibition of
Nuclear Weapons in Latin America
(Treaty of Tlatelolco)**

Disarmament Newsletter

October—Volume 7, Number 5***
December—Volume 7, Number 6***

Miscellaneous

Disarmament Possibilities II
Excerpts from the panel discussions organized by the NGO Committee on Disarmament on the United Nations role in disarmament and international security.
Held at New York, USA, 10-12 May 1989

---

* Also published in Russian.

** Also published in Arabic, Chinese, French, Russian and Spanish.

*** Also published in French, Russian and Spanish.

كيفية الحصول على منشورات الأمم المتحدة

يمكن الحصول على منشورات الأمم المتحدة من المكتبات ودور التوزيع في جميع انحاء العالم. استعلم عنها من المكتبة التي تتعامل معها أو اكتب إلى: الأمم المتحدة، قسم البيع في نيويورك أو في جنيف.

如何购取联合国出版物

联合国出版物在全世界各地的书店和经售处均有发售。请向书店询问或写信到纽约或日内瓦的联合国销售组。

HOW TO OBTAIN UNITED NATIONS PUBLICATIONS

United Nations publications may be obtained from bookstores and distributors throughout the world. Consult your bookstore or write to: United Nations, Sales Section, New York or Geneva.

COMMENT SE PROCURER LES PUBLICATIONS DES NATIONS UNIES

Les publications des Nations Unies sont en vente dans les librairies et les agences dépositaires du monde entier. Informez-vous auprès de votre libraire ou adressez-vous à : Nations Unies, Section des ventes, New York ou Genève.

КАК ПОЛУЧИТЬ ИЗДАНИЯ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ

Издания Организации Объединенных Наций можно купить в книжных магазинах и агентствах во всех районах мира. Наводите справки об изданиях в вашем книжном магазине или пишите по адресу: Организация Объединенных Наций, Секция по продаже изданий, Нью-Йорк или Женева.

COMO CONSEGUIR PUBLICACIONES DE LAS NACIONES UNIDAS

Las publicaciones de las Naciones Unidas están en venta en librerías y casas distribuidoras en todas partes del mundo. Consulte a su librero o diríjase a: Naciones Unidas, Sección de Ventas, Nueva York o Ginebra.

Litho in United Nations, New York
89-41233—January 1990—8,050
ISBN 92-1-142151-9

01500

United Nations publication
Sales No. E.90.IX.1

DISARMAMENT

A periodic review by the
United Nations

Courtesy of

Disarmament

a periodic review by the United Nations